

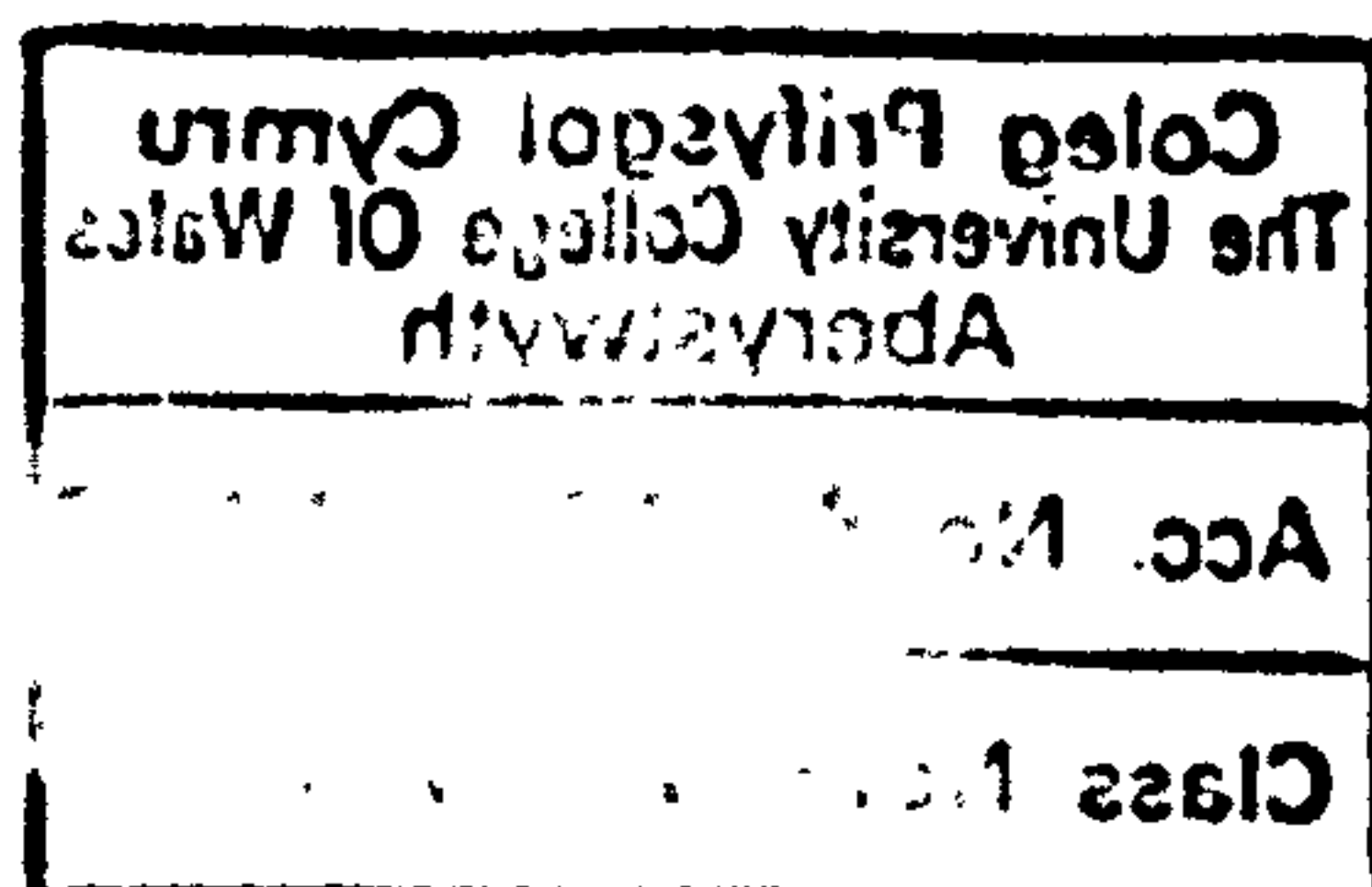
SPATIAL PATTERNS IN THE SMALL
TOWN IN THE NINETEENTH CENTURY -
A CASE STUDY OF WREXHAM

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Thesis submitted for the Degree of Doctor of
Philosophy.

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STATEMENT AND DECLARATION

This is to certify that the work submitted in
this thesis is the result of original
investigation.

All authorities and sources used in its
preparation are fully acknowledged.

No part of this work has been accepted for any
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ABSTRACT

Previous studies of residential differentiation in the nineteenth-century town have concentrated on larger, industrial towns of the period. As a counter-response to such work, this study examines the spatial patterns found in the small, Welsh town of Wrexham, during the middle decades of the nineteenth-century. Using data derived from the census enumerators' books for four dates (1841, 1851, 1861 and 1871), the total population of the town is examined at each date. Both Principal Components Analysis and Cluster Analysis are undertaken on the data set with the scale of the analyses being at the level of the street, although some attempt is also made to disaggregate the enquiry to the level of the household for the year of 1851. The results for each date are compared to reveal the changing sociospatial patterns of the town over a thirty year period.

The results suggest that small towns of the mid-nineteenth century were undergoing similar processes to those larger towns and cities previously studied by researchers, although the pace of change was slower and the resulting spatial patterns less dramatic in the small town. Even by 1871, modern levels of differentiation had not developed in Wrexham and were unlikely to do so in such a town. Most of the town still retained a mixed sociospatial structure with limited, localised segregation. Only the social elite and, to a lesser extent, the very poor were residentially segregated at the end of the period.

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Wrexham - "a thriving market borough that prospers on its fairs, its brewing and brick making, the mines about it, and it ranks as a military centre. A neat and pleasant place, fringed by brick suburbs, it is surrounded by some pretty scenery and deserves more attention from idle strangers than it appears to receive."

Adam and Charles Black, 1900.

Note: In this thesis, at each of the dates, Wrexham is defined as all of those enumeration districts covering the built-up area of the town. Initially these districts included some rural areas but these have been removed in the analyses.

CHAPTER 1

INTRODUCTION

1.1 Preface

Since the early years of the 1960s, interest in the nineteenth-century as a research field for urban social geographers has increased dramatically. Prior to this period any geographical interest in the internal patterning of cities or towns remained restricted to urban morphology with little examination of the attendant social makeup. However from this date, residential differentiation, a major theme in contemporary urban geography,⁽¹⁾ became increasingly applied to the nineteenth-century and many studies were generated by the release of useable census enumerator's books. The ready availability of the large body of data which the census contained led to an upsurge of interest in the nineteenth-century as a period, with the result that the volume of published studies concerned with it greatly increased.

Coincidentally, at the same time, the increasingly apparent stalemate of contemporary studies within urban geography, pushed research into two diverse avenues of advance. One area of development was the behavioural or microscale study of contemporary problems, while alternatively attention was transferred to the past, to



the nineteenth-century in particular, and to the examination of spatial patterns. The development of interest in the nineteenth-century and in the census, has occurred despite the problems involved in the analysis of census data, problems which have been well documented elsewhere.⁽²⁾ Within this increased interest, the nature of the spatial structure of cities in social terms became one of the main foci of attention.

Dating from the early work on the census undertaken by Lawton in the 1950s,⁽³⁾ numerous studies followed on specific towns on both sides of the Atlantic. Dyos (1961, Camberwell), Goheen (1970, Toronto), Anderson (1971, Preston), Warnes (1973, Chorley) and Armstrong (1974, York) were quickly succeeded by many other researchers in the same field.⁽⁴⁾ Most of the subsequent studies were concerned with large towns or cities and often they were also northern, or at least industrially-based. Studies by Tansey (1973, Hull), Dennis (1975, Huddersfield), Cowlard (1974, Wakefield), Lawton and Pooley (1975, Liverpool) and Shaw (1977, Wolverhampton) for example, all fall within this category.⁽⁵⁾ In a Welsh context, Carter and Wheatley's work on Merthyr Tydfil,⁽⁶⁾ also involved a large town dominated by a single industry - in this case, iron making.

The literature on the spatial patterning of the nineteenth-century city has, in the main, been in agreement. At least there is some agreement about the

fact of the transformation from the "pre-industrial" city as described by Sjoberg,⁽⁷⁾ towards the industrial city epitomised in the "ecological" city of Burgess and associates.⁽⁸⁾ However in recent years debate has developed about the precise nature of the transition between these two simple ideals, and in particular about what was happening during the middle years of the nineteenth-century.

Pre-industrial society is thought to have been organised in a kind of "cellular" arrangement with each cell or quarter characterised by a trade as noted by Sjoberg and elaborated by Vance.⁽⁹⁾ Within each cell, different social classes lived in close proximity spatially although in social terms there was little interaction between them. Any segregation that occurred was vertical rather than horizontal. Thus within any household there was segregation between the master, who lived in the best rooms with his family, and his servants or employees who lived either in the attic rooms or the basement. Horizontal or spatial segregation, on the other hand, was limited, each cell being characterised by a mixture of socioeconomic classes. In the pre-industrial city an individual's status was recognised without any need to resort to large-scale locational segregation, whilst the low social mobility of the period made any such segregation impossible in any case.⁽¹⁰⁾ However, it must be recognised that the principal streets may have housed the higher status groups thereby creating some spatial

differentiation. Thus as Sjoberg and Vance have proposed, the elite members of society probably occupied the central, more prestigious core area of the pre-industrial city, leaving the surrounding peripheral locations for the poorer classes. Undoubtedly some elements of this socio-spatial structure still survived at least in the early years of the nineteenth-century.

With the transformation into the industrial city, however, the attendant increase in social mobility and the separation of residence and workplace enabled greater residential differentiation and segregation of the classes to occur. The increase in social mobility encouraged the elite to assume clear symbols of status such as house type and the actual location of residence but such refinements were only made possible by the removal of residence from the place of work through the development of internal transport systems. Thus the elite were able to migrate to the peripheral areas of cities and towns with all the obvious advantages of such locations, leaving the poor and underprivileged to endure the decaying, older and often overcrowded conditions of the town centre.

Debate has focused upon the nature of this transition between the two ideal forms of the city, during the mid-Victorian period. Ward⁽¹¹⁾ and Cannadine⁽¹²⁾ both emphasised the transitional nature of the city in the mid-nineteenth century, suggesting that it had a less well-defined social and spatial structure than either the preceeding or succeeding

entities, as befits a situation or condition that is only transitory. This traditional notion of the transitional nature of nineteenth-century cities has been attacked by Dennis⁽¹³⁾ who argues that such ideas have obscured our understanding of socio-spatial change rather than increasing it. Dennis considers the period most often examined (1851-1871) as being the least useful in terms of change, and suggests that rather than being concerned with quantitative considerations it is the mechanisms of change which should be examined. In his study of Huddersfield, Dennis attempted to do this by utilising various notions of community at different scales.⁽¹⁴⁾

Nonetheless, several distinct themes have emerged from the numerous studies which have already been undertaken on the state of the city in the middle of the last century.⁽¹⁵⁾ Most analyses have concentrated on the 1851 census and it appears that the growing city of that date exhibited a high degree of residential differentiation and segregation. Thus, it could be suggested that already by the mid-nineteenth century, the city had more in common with its successor, the modern city of the twentieth century, than with its pre-industrial predecessor.

However, Ward in particular has argued against this broad idea, suggesting that until late in the century, "modern" levels and kinds of residential segregation were only weakly developed. Ward suggests that his examination of Leeds revealed that residential

differentiation within the city actually decreased between 1841 and 1871, without any general process of increasing segregation within the city over the whole of the century.⁽¹⁶⁾

It must be agreed however that segregation was, and still is, an enduring feature of the city although at different scales or levels at different dates through time. It was only when cities underwent rapid growth, particularly during the nineteenth-century, that this segregation became more noticeable as the spatial manifestation of segregation increased. This raises the whole problem of scale, a problem which has long beset geographical studies.

Most previous studies undertaken by urban social geographers have been concerned with large towns or cities, the size of which alone necessitated working at a coarse scale, and thereby involved sampling and usually, an analysis of data at the level of the enumeration district. Lawton and Pooley, in their examination of Liverpool, were dealing with such a large population in 1871, that a 10% sample still involved an analysis of over 56,000 individuals, whilst spatially the study was set at the level of the enumeration district.⁽¹⁷⁾ Shaw's work on Wolverhampton, the study of Huddersfield by Dennis and Armstrong's examination of York, all included sampling methods based on the household as the unit of analysis, due to the size of the cities and towns under consideration.⁽¹⁸⁾ Carter and Wheatley's work on

Merthyr Tydfil, similarly, was also concerned with a large and growing town - in 1851 the population totalled over 46,000 inhabitants. Although the authors did not resort to sampling in this particular study, two different spatial units were used.

Initially the data were analysed at the level of the enumeration district but subsequently the data were reaggregated for use in a two-hundred metre grid network and the resulting spatial patterns were compared.⁽¹⁹⁾

However it can be argued that the spatial framework used in such studies may not provide a fine enough mesh to capture the essential spatial diversity of the nineteenth-century town or city. Studies involving smaller towns or smaller areal units do suggest that the scale of any study is important. It is vital that the scale used reflects accurately the scale or size of the town involved but it also must reflect the scale at which social differences revealed themselves during the nineteenth-century.⁽²⁰⁾ Even Armstrong and Dennis working on relatively large towns, York and Huddersfield respectively, suggested that the scale of residential differentiation during the last century was at the level of the court or street rather than that of the enumeration district and yet it is the enumeration district which has formed the basis of most studies.⁽²¹⁾ The detailed analysis of small areas such as streets is unrealistic when dealing with a large city, but in looking at a small town, the

problems of handling the mass of census data involved are greatly reduced - an important consideration when the research is to be undertaken by one person alone.

Relatively few studies of the nineteenth-century period have involved the micro-scale analysis of small area data, an omission which remains to be adequately rectified. Studies which have been undertaken at this finer scale, such as those by Robb and Carter and Wheatley's work on Aberystwyth, suggest that small towns show a mosaic or patchwork pattern of social differentiation rather than a pattern of larger, well-defined, homogeneous social areas.⁽²²⁾ It would seem that a use of sampling and an emphasis on enumeration district analysis may be insensitive to this social mosaic which existed during the mid-Victorian period at the micro-scale. Only by looking at a small town, using the total population without sampling, and working at the street or even the household level, can micro-scale, socio-spatial patterns be properly examined.

A good example of what can be achieved by working on the small mid-Victorian town is the work already cited by Carter and Wheatley on Aberystwyth.⁽²³⁾ In this study, the authors found that residential differentiation was in fact operating in this small Welsh seaside resort, but it was operating at a much finer scale than had been found in earlier studies of larger towns. People of high socioeconomic status living on the street fronts were found in close

proximity to people of low socioeconomic status living in courts and yards built as urban infill behind the main thoroughfares.⁽²⁴⁾ Thus to some extent, this spatial patterning has more in common with the general model of the pre-industrial, rather than the modern town.

Aberystwyth, which had a population of only 5,189 in 1851, was largely untouched, at least directly, by the industrialisation which characterised most northern towns that have constituted the main focus of earlier studies. Although Carter and Wheatley show that in 1851, Aberystwyth still retained the general socio-spatial pattern of a pre-industrial town, by 1871, as a result of the arrival of the railway in the town, which encouraged the development of Aberystwyth's resort function, the poor were found to be living in the older, decaying central areas (with commercial interests dominating the main routeways) while the wealthy had migrated to surrounding peripheral locations.⁽²⁵⁾ This inversion of the classic pre-industrial pattern after 1851 suggests that despite its size, Aberystwyth still exhibited similar features and processes during the nineteenth-century, as towns of much larger populations which have been studied by other researchers.

Robb, in his work on the Gorbals district of late-Victorian Glasgow, is another researcher who suggests that comprehensive, small scale analysis of socio-spatial patterns is preferable to the more common

macro-scale analysis of cities. Robb found that although in general his study area declined in status between 1871 and 1891, there were also very marked smaller-scale distinctions which required analysis at a finer scale.⁽²⁶⁾

The few small scale studies which have been attempted seem to suggest that a more detailed approach is necessary to properly explore the variety of scale of social segregation which existed at various periods in the last century. In the past, research has been focused on the large town or city but it is timely to move away from such analyses towards more detailed studies of small units. If Dennis is correct when he suggests that the main form of housing in the early Victorian period was the court, it would seem that, because courts and yards usually form infill between more prosperous streets, few areas as large as enumeration districts were internally homogeneous.⁽²⁷⁾ To explore the intra-district variation, very detailed analyses of small spatial units such as the street or even the household must be attempted. To do this, it will be necessary to select very small portions of large cities or to move our attention away from large towns to ones of smaller, more manageable sizes.

When considering future research into nineteenth-century urban areas, the question of scale also becomes important in a secondary sense - some thought should also be given as to the typicality, in terms of population size, of any town which is to be studied.

Past studies of British, or more specifically, English towns have concentrated on relatively large towns and cities. Liverpool had a population of over 375,000 by 1851, while towns such as Huddersfield and Wakefield although smaller, were also of fair size by that date.⁽²⁸⁾ Even Chorley, a small Lancastrian town examined by Warnes which was much smaller than the towns generally studied, still had a population of 12,000.⁽²⁹⁾ Yet during the last century, a large proportion of the total population of England and Wales lived in small market towns and such towns should also be studied to see if the patterns and processes which have emerged in large towns of the period can also be related to these smaller urban centres.

In a study of the growth of the urban population of England and Wales throughout the nineteenth-century, Law found that by 1901 nearly 80% of the total population could be classed as urban.⁽³⁰⁾ Throughout the century the rate of urban growth was over twice that for the population as a whole, yet outside the main urban areas such as London and the North West, the rest of the country could still be termed rural even in the mid-Victorian period. Law suggested that quite a large proportion of urban centres were not greatly affected by the dominant trend of urbanisation, including such centres as market towns and decaying ports.

Figure 1.1

The Urbanisation of England and Wales

	Population Size	
	>100,000	> 50,000
1801	11.0	14.5
1851	24.8	30.6
1901	43.6	51.0

(after Law)

Figure 1.1 shows the proportion of the total population of England and Wales that were living in large urban centres at three dates. Thus, although in 1851, 30.6% of the total population were living in large centres of over 50,000 people, Law calculated that some 54.0% of the total population of England and Wales could be classified as urban, living in centres with populations of over 2,500. This suggests that nearly a quarter of the total population of the country were living in smaller towns in the mid-Victorian era, towns which, in terms of numbers only, must have been more important than the larger centres. Thus it can be seen that the small town could become a fruitful area of research, if only to compare the results with those gained from other studies of larger towns and cities.

Linked to this question of size is another criticism which may be applied to previous studies. Most such studies have concerned themselves with the rapidly industrialising towns of the North West and Midlands in particular. However, as Law attempted to show, quite a large proportion of urban centres such as market towns, ports and smaller regional centres, which were not at the forefront of the industrialisation process, were not greatly affected by the trend of urbanisation which dominated the nineteenth-century.⁽³¹⁾ Such towns may even have experienced out-migration, which reduced their rate of growth by offsetting the high rates of natural increase observed throughout the period. The industrialisation of the early nineteenth-century and the subsequent urbanisation which followed, dominated the era and because of this should rightly influence which towns and cities are to be studied. At the same time however, some consideration should also be given to the mass of market towns found throughout the country, if only to reduce any bias in our analyses towards one class or type of town.

As yet, relatively few studies have looked at small, rurally-situated, market towns during the Victorian period. Exceptions include Carter and Wheatley's work on Aberystwyth⁽³²⁾ and Royle's discussion of four Leicestershire towns.⁽³³⁾ More studies based on the small market town or regional centre would aid the evaluation of results achieved

from examinations of larger cities, as well as verifying the results from the few small town studies which have so far been completed.

1.2 Research Aims

The considerations outlined in section 1.1, were taken into account when the decision was made to focus this investigation on the small Welsh town of Wrexham.⁽³⁴⁾ One of the basic aims of the study was to redress the balance somewhat and to move away from the macro-scale analysis of a large town or city towards the more detailed study of a small town. A town the size of Wrexham allows such an approach to be adopted without placing undue strain on a single researcher. Because Wrexham had a total population of only 6,705 in 1851,⁽³⁵⁾ it was possible to include all of the inhabitants in the analysis without any resort to sampling but more importantly it was decided that the basic unit of analysis would be the street. The problem of scale remains a fundamental issue in most geographical research and in this study it was intended that the unit of analysis adopted would be an accurate reflection of the town itself. The street remains the most natural basis for examination within any town since it, at least, has some real meaning for the inhabitants. At the same time, with a settlement the size of Wrexham, any study based on enumeration districts would have been essentially meaningless - the

results would have been so general as to have had little value.

While the enumeration district was discarded as being unrealistic for Wrexham in terms of size, the grid square similarly was rejected as an analytic tool because of its artificial nature and the need to impose it on the data from outside. In any examination of urban life it is best to approach the problem as much as possible from the viewpoint of the inhabitants for whom the town is (or was) a real entity. A grid square analysis would have given meaningless results in such terms, whereas the street units adopted here have an intrinsic meaning for past (and present) populations of the town.

Results from studies which have employed grid squares⁽³⁶⁾ do not convince that such a technique enhances any understanding of the town under consideration. Division of the streets into more equal units in terms of population size prior to the analysis was also rejected on similar grounds. In real terms the number of people living in the different streets and courts of Wrexham varied both spatially and through time, so it seemed somewhat unimaginative to remove this component of natural differentiation for the sake of statistical niceness, particularly when interest in the town centered on these actual differences or variations. To this end, the street units were left intact without any attempt at standardising the numbers of people within them.

Although the greater part of this present study was conducted at the street level, at the same time some consideration was also given to data collected at the scale of the individual household. Initially the data were coded at the simplest level - the individual. By coding the details of every individual in the town onto a separate computer card, any form of aggregation into larger spatial units could have subsequently been adopted: the household, the street, the enumeration district - all could have been utilised later. In fact the street became the basic unit of analysis but it was also possible to make a direct comparison between different scales of analysis using the same data. So for 1851, the census data were initially analysed in street units but the same data were subsequently broken down into household units and reexamined. The results were then returned to the scale of the street for mapping so that it was possible to make direct and immediate comparisons between the two spatial patterns (from the two levels of analyses) for the single data set. This meant that any variations or differences between the two socio-spatial patterns were easily apparent.

Such a comparison can provide additional insight into the whole problem of scale. Variations in the socio-spatial pattern which are undetected at the street level may emerge when the data are disaggregated at the finer scale of the household. Such direct comparisons may also provide new insight into the

processes at work in the town and may even suggest which directions future nineteenth-century studies should take. Are the same processes at work (and do the same socio-spatial patterns emerge) at different scales of analysis? Perhaps at least a partial answer may result from this study of Wrexham.

The question of scale is also important in a secondary sense. It has already been acknowledged that some consideration should be given to the size of the town itself, in that the town to be studied should be generally representative of towns of the period under discussion.⁽³⁷⁾

During the nineteenth-century, Wrexham remained a commercial centre with a small population but it was also a town of some local importance.⁽³⁸⁾ Between 1831 and 1871, when many towns experienced great population growth, the population of Wrexham increased only moderately from 5,484 (in 1831) to 8,500 forty years later.⁽³⁹⁾ In comparison over the same period, the Welsh "iron" town of Merthyr Tydfil increased in size from just over 22,000 people in 1831, to over 52,000 by 1871.⁽⁴⁰⁾

Throughout the last century Wrexham remained a relatively small market town serving the numerous mining townships which shared its location on the coalfield. Within North-east Wales, Wrexham maintained an important role as a retail centre and throughout the century the town continued to adjust to the commercial developments of the period.⁽⁴¹⁾ As

such Wrexham is very representative of a mass of small Welsh urban centres of the period; in many ways much more representative than the town of Merthyr Tydfil which was a highly specialised industrial town. Seen in this light, Wrexham can provide important new insights into the small British, and more specifically, small Welsh, market towns of the nineteenth-century which were not in the forefront of industrialisation but which nonetheless retained a position of local or regional importance.⁽⁴²⁾ Wrexham essentially remained a commercial centre serving an industrial hinterland, but in itself the town was little affected by industrial development. By studying its socio-spatial structure, the town of Wrexham can reveal whether market towns of the nineteenth-century were undergoing similar changes to industrialising towns of the period, although possibly in more subtle ways.

One basic spatial feature that has emerged in previous studies is segregation. Socioeconomic status, family lifecycle and ethnicity have, traditionally, been regarded as the main parameters of residential differentiation within the town, but it is not clear whether such dimensions would also emerge from an analysis of a small town. In this study of Wrexham, one aim is to shed further light on these dimensions of differentiation by comparing the results with other earlier, similar studies.⁽⁴³⁾

This section has outlined some of the main aims of this study of Wrexham. The principal task is to

examine a small town at a detailed level to see whether the processes and patterns which emerge are comparable with the results obtained elsewhere: for example, was segregation a feature of the small Welsh town or was there a high degree of heterogeneity? By the examination of data at the level of the street or household, micro-scale variations within the town can be analysed and hopefully some of the problems posed by earlier studies can be resolved.

1.3 Research Outline

The main source of data for nineteenth-century urban analyses remains the census and this present study is no exception. Data were utilised from the unpublished census enumerators books for Wrexham, for four dates - 1841, 1851, 1861 and 1871. Unfortunately, because of the one hundred year confidentiality rule, material from the 1881 census could not be examined when this research was undertaken.⁽⁴⁴⁾ The total population of the town of Wrexham was examined for each date, without any use of sampling methods, so that over 27,000 individuals were included in the analysis.⁽⁴⁵⁾

Before 1841, the census enumerators books are of limited value for geographical research,⁽⁴⁶⁾ while even the census of that year contains much less information than is available for succeeding dates. Data for Wrexham for the years 1851 to 1871 were available on

microfilm while the census data for 1841 were obtained from a local copy which had fortunately survived.⁽⁴⁷⁾ The census of 1861 was incomplete and generally in less good condition than those for the other three years. As already noted, data from the census were coded on an individual basis, with information for each person coded on a separate computer card. Any type of aggregation of the data into larger units was avoided at this stage so that the maximum amount of information could be included in the analysis in its simplest form, thereby reducing coding errors. This method also meant that any form of aggregation could be used subsequently during the analysis and at the same time it allowed the coding to be completed relatively quickly. The data abstracted from the census included locational details such as enumeration district, street and household as well as marital status, sex, age, occupation, birthplace and relationship to the household head etc. It was also noted if the individual was an employer.

Once stored on file in the computer, the census data were analysed using the variety of techniques included in the "Statistical Package for the Social Sciences", (S.P.S.S.).⁽⁴⁸⁾ Original data abstracted from the census were also used to derive other surrogate indices for inclusion in the main analysis. Thus the data on occupation were recoded into socioeconomic classes and industrial groupings using one of a number of classification schemes developed

elsewhere.⁽⁴⁹⁾ The main analysis was undertaken at the level of the street. For each of the four census years, data were analysed using a Principal Components Analysis technique and a clustering procedure.⁽⁵⁰⁾ This facilitated direct comparison between all four dates, while the street represented the most meaningful unit of analysis for a town the size of Wrexham. By using the Principal Components Analysis technique, a multivariate analysis of a range of census variables was possible so that reliance on one or two diagnostic variables was avoided. The resulting spatial patterns which emerged were compared for the four dates to give a detailed overview of the town throughout forty years in the middle of the last century.

This street analysis formed the core of the examination of the town but in addition the data for 1851 were also analysed in a similar fashion at the level of the household. Any analysis at this scale presents many computational problems so it was decided that such a detailed examination could only be undertaken for one census: 1851 was chosen as being the most useful for various reasons. In the census of 1851, data were available for the total population of Wrexham (unlike in 1861) and also this year was the first date for which the full complement of information was collected by the census enumerators.⁽⁵¹⁾

Similarly 1851 was preferred to 1871 because of the smaller population involved which made the analysis slightly more manageable. The analysis of data at

different scales for the same date can give valuable insight into the wider problem of scale and its effect on results. To this end, the results of the household analysis were mapped at the level of the street to allow direct comparison of the socio-spatial patterns that emerged with those from the earlier street-level examination of Wrexham.

Although centered specifically on data derived from the census enumerators books, ancillary material also provided very useful information in this study of nineteenth-century Wrexham. For all geographers, maps remain essential tools, and any study of spatial patterns within the town would be impossible without the availability of a good series of maps. Information derived from rate books, trade directories, local histories and newspapers was also included and such sources gave valuable insights into the town throughout the period.

This introduction has in very general terms outlined the nature of this examination of nineteenth-century Wrexham. This subject will be returned to later in Chapter 2, when there will be a more detailed description of the sources employed and the methods adopted including discussion of the methodological decisions which were made. The remainder of this chapter (Chapter 1) deals with the theoretical background to nineteenth-century studies in general and also examines in more detail some important previous studies and the conclusions and results which have

emerged from them. Chapter 3 then gives a detailed description of the town of Wrexham itself, prior to the beginning of the period under discussion, by way of an introduction to the later analyses. The following chapters (Chapter 4 - 8) present the results of these analyses, both at the level of the street and the household. Finally, Chapter 9 presents the conclusions from this present study and also offers some suggestions for future work in this field.

1.4 Contemporary Observations

Before continuing with this study in detail it is important to gain some idea of its position in the growing tradition of nineteenth-century studies by looking at some previous work and the theoretical considerations which lie behind them. However, concern with towns of the period has not been exclusively restricted to recent times. During the nineteenth-century itself, certain individuals displayed a keen interest in the problems faced by their fellow urban dwellers.

The most detailed contemporary account of the social conditions in British industrial towns during the early part of the last century, was written by Frederick Engels.⁽⁵²⁾ Although first published in Germany in 1845, his "The Condition of the Working-Class in England", did not appear in London until 1892. Engels lived in England for two years during the 1840s

(1842-1844) and at first hand he experienced the living conditions of the working classes, particularly in Manchester; although in his book Engels described life not only in the industrial centres of Lancashire and Yorkshire but also in the larger metropolis of London. Engels believed that the main effect of the industrial revolution was the transformation of society and the creation of the proletariat or working-class, a view which mainly derived from his belief that economic determinism was the root cause of the emerging social conditions and from his Socialist political leanings. Leaving aside his political persuasions however, this work by Engels contains important descriptions of the nature of life for the working populations in the industrial towns of the North.

Engels also observed that during this period, the 1840s, although complete residential segregation had not yet emerged universally, already large-scale slum areas were developing in some places as indeed were high class suburbs. Thus the basic pattern which he observed was one of segregation:

"Every great city has one or more slums, where the working-class is crowded together. True, poverty often dwells in hidden alleys close to the palaces of the rich, but in general, a separate territory has been assigned to it, where, removed from the sight of the happier classes, it may struggle along as it can."(53)

As the nineteenth-century progressed, spatial segregation was consolidated as the rich were able to move out to peripheral locations, leaving the working-classes to crowd into the central area. This theme was echoed by other fictional writers of the period:

"Mr. Bounderby had taken possession of a house and grounds, about fifteen miles from the town, and accessible within a mile or two, by a railway striding on many arches over a wild county, undermined by deserted coal-shafts, and spotted at night by fires and black shapes of stationary engines at pit's mouths.... It afforded Mr. Bounderby supreme satisfaction to instal himself in this snug little estate, and with demonstrative humility to grow cabbages in the flower-garden."(54)

As can be seen from this extract, nineteenth-century fiction can also provide insight into how contemporaries viewed the urban conditions of the period. "Hard Times", written by Dickens and first published in London in 1854, reveals a startling portrait of a Lancashire mill town in the 1840s. Like Engels, Dickens was concerned with the men, women and children whose lives were being transformed by the Industrial Revolution. Dickens' mythical town, "Coketown", possessed all the apparent sameness that the author saw in the real industrial towns of the period:

"It (Coketown) contained several large streets all very like one another, and many small streets still more like one

another, inhabited by people equally like one another, who all went in and out at the same hours, with the same sound upon the same pavements, to do the same work, and to whom everyday was the same as yesterday and tomorrow, and every year the counterpart of the last and the next."(55)

This type of monotonous existence, both in terms of architecture and employment, is often emphasised by the social campaigners of the period in their descriptions of the working-classes. Although written as a piece of fiction, Dickens, in the same book, later goes on to describe the worst working-class area of Coketown - the inner city slum:

"In the hardest working part of Coketown; in the innermost fortifications of that ugly citadel, where nature was as strongly bricked out as killing airs and gases were bricked in; at the heart of the labyrinth of narrow courts upon courts, and close streets upon streets, which had come into existence piecemeal, every piece in a violent hurry for some one man's purpose, and the whole an unnatural family, shouldering, and trampling, and pressing one another to death;...."(56)

Dennis has argued that both Engels and Dickens were middle class observers who fitted their descriptions of city and town life to their preconceived ideals of society.⁽⁵⁷⁾ Even so, throughout the nineteenth-century the middle classes became increasingly aware of the problems encountered by their working-class neighbours. This awareness can be illustrated by the vast number of royal commissions

on health, sanitation and housing conditions which date from the middle of the century and also by the popularity of "social" novels which described working-class life. By the end of the nineteenth-century, few members of the middle classes could claim to be totally unaware of the existence of the "two nations".⁽⁵⁸⁾

The most comprehensive description of nineteenth-century life in the growing industrial towns was provided by Engels in his account of the English working-class.⁽⁵⁹⁾ Engels recognised that distinctive social areas were inhabited by specific groups within the larger cities in particular, and that these cities became divided into various "quarters", such as the Irish quarter and working-class areas. Whether such conditions could also be observed in the smaller towns of the period (albeit at a more subtle scale) is open to question however. Nonetheless, this work by Engels can be directly linked to a later approach adopted by the Chicago School at the beginning of the present century. In his book, Engels appears to lend support to the ecological approach of Burgess and others which resulted in an important early model of urban structure - the concentric zone model.⁽⁶⁰⁾ Thus, talking of Manchester in 1844, Engels wrote:

"...The working-peoples' quarters are sharply separated from the sections of the city reserved for the middle-class; or, if this does not succeed, they are concealed with the cloak of charity. Manchester contains, at its heart, a rather extended commercial district... consisting almost wholly of offices and

warehouses. Nearly the whole district is abandoned by dwellers, and is lonely and deserted at night... With the exception of this commercial district all Manchester proper...are all unmixed working-peoples' quarters, stretching like a girdle, averaging a mile and a half in breadth, around the commercial district. Outside, beyond this girdle, lives the upper and middle bourgeoisie, the middle bourgeoisie in regularly laid out streets in the vicinity of the working quarters... The upper bourgeoisie in remoter villas with gardens...or... in fine comfortable homes, passed once every half or quarter hour by omnibuses going into the city. And the finest part of the arrangement is this, that the members of this money aristocracy can take the shortest road through the middle of all the labouring districts to their places of business, without every seeing that they are in the midst of the grimy misery that lurks to the right and the left."(61)

This description could be applied with little modification to the model developed by Burgess which was based on his work in Chicago. The work of the Chicago School represents an important starting point for the modern interest in socio-spatial patterns within cities since almost all subsequent interest can be traced from their work. It is to this subject that we now turn and an examination of the development of interest in spatial patterning within cities.

1.5 Spatial Models

The origins of ecological theory and the interest in "natural" or social areas within the city are founded in the work of R.E. Park, who in 1916, made

certain analogies with animal and plant communities.⁽⁶²⁾ Out of this work, the city became viewed as something like an organism and in 1925, E.W. Burgess introduced his model of a concentric zone arrangement of urban land-use about the city centre, based on his own work on the growing American city of Chicago.⁽⁶³⁾ The Burgess model has been adequately described elsewhere⁽⁶⁴⁾ so it is unnecessary to describe it in detail here.

The Burgess model was ostensibly based on the American experience at the end of the nineteenth and the beginning of the twentieth-century, a period when heavy migration into the city resulted in an era of rapid city growth. However soon after its introduction, criticism of the model began to appear because of its lack of universality and its inapplicability in a British context where municipal housing intervened to disrupt the zonal arrangement.⁽⁶⁵⁾ This criticism inevitably led to attempts to improve the model and to include situations which were excluded from it. Such extensions included the sector model developed by Hoyt in 1939⁽⁶⁶⁾ and the multiple nuclei model devised by Harris and Ullman in 1945.⁽⁶⁷⁾ These models have also been adequately described elsewhere.⁽⁶⁸⁾ In a similar reaction against the deterministic models of the Chicago School, Walter Firey in an analysis of Boston, stressed the cultural component within the city which he suggested could override all other considerations.⁽⁶⁹⁾

In addition to such attempts to model the city of the late nineteenth and twentieth centuries, Sjoberg tried to model the pre-industrial city, that is, the city prior to the advances of industrialisation.⁽⁷⁰⁾ Using a wide variety of evidence Sjoberg argued that in the pre-industrial city, an elite group, centered at the core, controlled the political and social life within the city and dominated all activities, while the poorer members of the community lived at the margins of the settlement. At the same time, members who engaged in different trades occupied different quarters within the city while other minority groups also retained their distinctiveness. This arrangement corresponds well with the "pre-capitalist" city of Vance, who suggested that the dominant influence in city life was the strength of the guild organisations which controlled the social and economic life of the city.⁽⁷¹⁾

Although any model is obviously a simplification of reality, such models do provide useful yardsticks against which the reality of the nineteenth-century city, as it emerges from analyses, can be measured. Clearly some elements of all the models will be found in an examination of any particular city or town, although specific features of spatial layout within a city will be unique and will vary between different settlements due to such factors as site and land ownership. Several attempts have been made to improve these early models,⁽⁷²⁾ including Dennis and Clout, who in an overview of the whole subject have presented an

improved model of the spatial structure of English cities throughout the nineteenth-century.⁽⁷³⁾ Their model attempts to integrate the earlier models, suggesting that these models complement each other, rather than being in competition. Discussion of these spatial models has led to the notion that each model represents a different aspect of the structure of any city or town. It is possible to envisage each model as a reflection of one dimension of spatial variation within the city, as propounded by social area theory and analysis.

1.6 Social Areas and Factorial Ecologies

Social Area Theory dates from the middle decades of the present century. Social Area Analysis, which developed as the method by which this theory became operationalised, again originated in America and was also subjected to much criticism because of its shaky theoretical foundations and subjective nature.

The authors, initially Shevky and Williams⁽⁷⁴⁾ and subsequently Shevky and Bell,⁽⁷⁵⁾ developed a theory of social differentiation describing changes in the structure of society as a whole over time, which they believed were also accompanied by changes in the urban structure. They suggested that three dimensions could be recognised as having importance in the development of distinctive social areas within cities; these dimensions they termed Social Rank (economic status),

Urbanisation (family status) and Segregation (ethnic status). The basic argument of Social Area Theory is that these three separate dimensions which characterise residential differentiation within the modern or post-industrial city (as typified by Los Angeles in the original study), were actually interrelated during the pre-industrial period.

The severe criticism of the technique and of the theoretical background⁽⁷⁶⁾ which developed from the work of the Social Area analysts, allied with a desire to include many more variables in any examination of social structure, often variables with vague associations, led to the widespread adoption of the procedure called Factor Analysis. Berry and Rees have stated the principles which lie behind this multivariate approach:

"Factorial ecology is the term now used to characterise studies involving the application of factor analysis to ecological study. A data matrix is analysed containing measurements of m variables for each of n units of observation (census tracts, wards) with the intent of 1) Identifying and summarising the common patterns of variability of the m variables in a smaller number of independent dimensions, r , that additively reproduce the common variance, and 2) Examining the patterns of scores of each of the n observational units on each of the r dimensions."(77)

The introduction of multivariate factorial ecologies soon rendered social area analysis as a technique extinct and resulted in numerous ecological

studies, initially in North America but later also in Britain. In intellectual terms, factorial ecology proved to be similar to its predecessor, social area analysis, with little advance of concept, so that the criticisms applied to the earlier technique could equally well (if not more strongly) be applied to the later procedure. Thus Pooley's comment that:

"Social area analysis on its own is a sterile pastime which is likely to yield platitudinous results which reflect the range of variables fed into the computer,"(78)

may also be applied to the work of the factorial ecologists.

Nonetheless, many American studies which have used this method, have produced results which conform to those put forward by social area theory. However, since the results of factorial ecologies are heavily dependent on the data included in the analysis and also since much component labelling is highly subjective,⁽⁷⁹⁾ it is of little wonder that many studies have found exactly what their researchers were hoping to find. In general the results from studies undertaken on British cities were very similar to those found in examinations of American towns. However, in Britain there are also additional complications, such as the role of the large public sector in the housing market, which do not exist across the Atlantic.⁽⁸⁰⁾

Initially advocates of factor analysis concentrated on twentieth-century Western cities, but when researchers turned their interest towards underdeveloped countries and their cities, important differences became apparent from the 'normal' three-dimensional results of early studies. Janet Abu-Lughod's study of Cairo⁽⁸¹⁾ and the work by Berry and Rees on Calcutta,⁽⁸²⁾ suggested that less-developed cities differed markedly from their twentieth-century Western successors, and that the latter could be seen as the end product of a city development process during which the dimensions of urban structure evolved into separate entities. In less well developed cities, the dimensions of differentiation within the cities were found to be less clearly defined and might be termed less-developed themselves. Such notions led to the suggestion that earlier nineteenth-century, Western cities might have more in common with these underdeveloped cities than with the later developed cities of the Western world; such cities having urban structures which were transitional between the pre-industrial city of Sjoberg⁽⁸³⁾ and the modern post-industrial city of the late twentieth-century.

Numerous studies investigating the nature of the social structure which existed during the period, have been undertaken on the nineteenth-century British city and town. Few studies have charted the development in urban structure for any particular city throughout a long time span; most have been content to concentrate

on the spatial patterns and the processes at work within a specific time period. It is into this tradition that the present study of Wrexham fits.

1.7 Empirical Studies

Despite the scarcity of studies specifically concerned with the dimensions of differentiation within the city and the way these dimensions developed throughout the last century, results in general have been in agreement with the above notions, suggesting that there was a temporal development towards the post-industrial or modern pattern of socio-spatial structure.

In a study of Toronto during the second half of the nineteenth-century, using data derived from the Assessment Rolls for five years and the factor analysis procedure, Goheen⁽⁸⁴⁾ determined that the city became "modern" during this period. Until 1870 Toronto essentially retained a spatial structure from the past, a structure which might be termed pre-industrial. However during the following three decades, the character of the city changed as the modern metropolis emerged and by 1899 Toronto's dimensions of residential differentiation were those of the later twentieth-century city. In a British context, Shaw's work on Wolverhampton⁽⁸⁵⁾ was also concerned with the modernity of the city during the middle of the last century. By comparing factorial ecologies for the three census

years of 1851, 1861 and 1871, Shaw found evidence of an evolution of the dimensions of residential differentiation over time. By 1871 the gradual separation of the dimensions of socioeconomic status and family status had fully developed so that two independent dimensions or components were observed and in many respects the city was already "modern".

An interest in residential differentiation within cities during the nineteenth-century has led to numerous studies based on British cities. Thus Liverpool, Huddersfield, Wakefield, York, Hull, Chorley, Merthyr Tydfil and Glasgow, among others, have all been exposed to critical examination by researchers.⁽⁸⁶⁾ Studies have tended to be biased towards large, industrial and northern towns, with relatively little concern for the smaller market towns of the period. The cities and towns of the nineteenth-century made up a very diverse group and it would be most beneficial if analyses were undertaken on different types of urban centre.

Liverpool, already a large city by the middle of the nineteenth-century, has been analysed by Lawton and Pooley as part of a wider examination of the Merseyside region.⁽⁸⁷⁾ The authors found that the city was already essentially modern in terms of social structure by that date. In 1871 Liverpool possessed well differentiated social areas in which segregation played an important role; segregation based on the origins of migrant populations being particularly significant in

this busy port.

Because of the size of the city, the analysis of Liverpool was undertaken on a 10% sample basis but even with this constraint it resulted in the examination of over 56,000 individuals for the year 1871. However, at the same time, the authors did try to analyse material at different scales or levels. The main study was conducted at the level of the enumeration district (which involved some boundary revision) but in addition several streets were chosen as being representative of the social areas already identified within the city and a more detailed examination was attempted on these streets. The study also incorporated a coarser scale of analysis - at the regional level material from the published census tabulations was also utilised.

Such an analysis, at a variety of scales, improves our knowledge of nineteenth-century urban centres and also allows some comparison between the resulting patterns which emerge at the different scales. It is hoped that this present study of Wrexham will follow in this vein, with particular emphasis at the microscale level of analysis. The major theme of the study will involve examination of the total population of the town for four dates (1841, 1851, 1861 and 1871) at the street level but for the year of 1851 the analysis will also be disaggregated to the finer scale of the household. This type of detailed study can only incorporate the total urban population when the town

under consideration is relatively small and therefore manageable. In the past however, attempts have been made to examine quite large towns at a detailed level.

Dennis, in an examination of Huddersfield between the years of 1850 and 1880⁽⁸⁸⁾ attempted to chart the changes in the town's urban social structure by referring to three levels of community interaction - social areas, informal communities of interaction and formal communities of common interest. Dennis argued that any analysis based on enumeration districts would only identify the extremes of urban life without improving our knowledge of the spatial structure within which most people actually lived. Thus Dennis looked at both formal and informal interaction at a finer scale using record linkage techniques, and came to the conclusion that in Huddersfield at least, the scale of residential differentiation was the street or the court rather than larger homogeneous areas comprising enumeration districts or even groupings of enumeration districts.

Although the Irish again emerged as being a particularly segregated group in keeping with most previous studies, in Huddersfield this immigrant community lived mainly in two court areas near the town centre, as well as in isolated courts at a greater distance from the central area. Thus in this study it was important that the scale of analysis was fine enough to bring out these micro-scale variations in social structure. Dennis goes so far as to suggest

that analysis should be reduced to the level of the individual and without quite achieving that, it is hoped that this study of Wrexham goes some way to illustrate how a microscale approach might be undertaken.

As another example of what has already been achieved, an examination of intra-urban migration in Leicester has been conducted by Pritchard.⁽⁸⁹⁾ This study which covered the period from 1860 to 1965, involved a far longer time span than most studies, which have usually been centered in the nineteenth-century. The basic sources used were trade directories and electoral rolls, while the data were analysed at the level of the household. Socio-spatial patterns within the city represent the net results of intra-urban migration and in Leicester, Pritchard recognised five stages or ideals in the city's evolution; from the Pre-Industrial (of the pre-1820 period), through Early Industrial (1820-1865) and the Ecological City (1865-1914) to the Inter-War period (1920-1940) and finally the Post-War stage (since 1945). From the nature of his thesis, Pritchard of necessity concentrated on the single aspect of housing, and the way in which housing has become the major control on the social geography of the city. Most other studies have concentrated on social aspects of towns in terms of household characteristics rather than housing, as does the present study.

Probably the only published study conducted on a small, mainly non-industrial town comparable with Wrexham and using the household as the basic unit of analysis, is the study of Aberystwyth by Carter and Wheatley.⁽⁹⁰⁾ The authors concentrated on the period 1850-1870 when the town was affected by the arrival of the railway and the allied development of its resort function. Aberystwyth, with a total population of just over 5,000 in 1851, retained many of the characteristics of a pre-industrial town although its specialised resort function had engineered some early modifications. Between 1851 and 1871 the modernisation of the town took place, with the wealthy moving to new residential areas on the outskirts leaving the poor to compete at the town centre with the emerging business and commercial interests and where former high class areas declined in status.

Although Aberystwyth was only a small town in the nineteenth-century, clear signs of segregation can be discerned and the transformation it underwent was similar, if on a reduced scale, to that seen in larger towns and cities. However the poor were not totally relegated to the outskirts of the town even in the middle of the century, but many were found living in the centre alongside wealthier neighbours. Microscale analysis shows that in Aberystwyth some low status residents were to be found living in back-streets in close proximity, at least in physical terms, to high status dwellers although effectively segregated from

them in social terms. Thus segregation within Aberystwyth was at a relatively fine scale with a mixture of social classes occupying the central area until quite late in the century.

Cowlard, in his study of Wakefield,⁽⁹¹⁾ found a similar situation in Nelson Street for example, which was occupied during the nineteenth-century by Irish migrants and unskilled workers. This street, which was a cul-de-sac, was hidden away behind the main roads so that it was generally unseen by the mass of people using the main thoroughfares. Despite living very near high status neighbours, the residents of Nelson Street were segregated from them in social terms, and only an examination of household data could reveal such intrinsic variations within the urban area.

In quite an early example of just such an approach, Warnes⁽⁹²⁾ found that in Chorley, Lancashire, any obvious spatial variations in social structure were very local at the level of the street or court, and by 1851 distinctive social areas of residential differentiation had failed to develop within the town. Again this was probably due to the size of the town under consideration (Chorley had a population of around 12,000) since segregation is likely to be most highly developed in larger cities. Ward⁽⁹³⁾ has suggested that residential differentiation during most of the previous century was extremely local, with so called "modern" levels only being weakly developed until quite late in the period. Looking at Leeds in the middle of

the century, Ward found that during this period the level of residential differentiation within the city actually diminished, and neighbours of quite diverse social status were living in close proximity. Both Ward and Cannadine⁽⁹⁴⁾ stressed the transitional nature of mid-nineteenth century cities, in contrast to Lawton and Pooley⁽⁹⁵⁾ who suggested that by 1871 Liverpool was essentially modern in structure. The problem of reconciling such differences however, can be subsumed within the problem of scale. Indeed, Carter and Wheatley⁽⁹⁶⁾ have argued that any generalisations about segregation in the nineteenth-century city are gross simplifications because of this very problem of scale.

The present study of Wrexham fits into this tradition of previous studies at the microscale. By conducting a small scale analysis of a total population for four dates throughout the nineteenth-century, and by concentrating on the spatial patterns which emerge, it is hoped to contribute to this whole debate about the nature of segregation during the so-called transitional period and the problem of scale which intrudes into such studies. The basic aims of the study have already been introduced and the next chapter looks at the sources used and the methods of analysis which were adopted.

1.8 Notes

1. For a general introduction to work on the topic of residential differentiation, see one of the following urban texts: a) Timms, D.W.G. (1971) The Urban Mosaic. Towards a Theory of Residential Differentiation, C.U.P., Cambridge. b) Carter, H. (1975) The Study of Urban Geography, Edward Arnold, London (2nd Edition). c) Herbert, D.T. (1972) Urban Geography. A Social Perspective, David and Charles, Newton Abbot. d) Robson, B.T. (1969) Urban Analysis: A Study of City Structure with Special Reference to Sunderland, C.U.P., Cambridge.
2. Two useful collections of papers which detail how to use census data and the problems associated with it are: a) Wrigley, E.A. (Ed.), (1972) Nineteenth-century Society. Essays in the Use of Quantitative Methods for the Study of Social Data, C.U.P., Cambridge. b) Lawton, R. (Ed.), (1978) The Census and Social Structure. An Interpretative Guide to Nineteenth Century Censuses for England and Wales, Cass, London.
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SOURCES AND METHODOLOGY

2.1 Introduction

The nature of the sources available for any examination of a nineteenth-century city or town has been widely documented elsewhere⁽¹⁾ and in previous studies. Even so, each individual study inevitably depends upon the evidence which has survived for that particular town, and the abundance of this surviving material varies widely. Thus to some extent, within relatively strict limits, the sources used in any one study are unique, in that all possible documents are not available for all towns.

Because of the universality (or near universality) of the availability of the enumerators' returns of the census within England and Wales for the nineteenth-century, data derived from this material remain the most important single analytical source. This is despite the fact that the confidentiality rule limits its effective use at the end of the century and the problem of question omission, which reduces the usefulness of the census to the historical geographer throughout the early years of its collection. Nonetheless the census, and particularly the unpublished census enumerators' books, provides the

basic foundations for most historical urban studies, although it is commonly acknowledged that it is also important and necessary to include other, less accessible sources.

In the present study, various sources were examined but the census enumerators' books are presented as being the most fundamental data-bank. There follows a discussion of the different sources used along with some elucidation of the various analytical procedures and methods which were employed in the examination of the town of Wrexham.

2.2 The Census

The first fully systematic exploitation of census data was undertaken by Armstrong during the 1960s, in a study of York,⁽²⁾ although in advance of this, Beresford had pioneered the use of the census as a source.⁽³⁾ In a paper published in the "Amateur Historian" (the title of the journal alone suggesting which field the paper was primarily aimed at) Beresford outlined what data were available from the censuses of 1841, 1851 and 1861 for use in any analysis (at that time the census enumerators' books were unavailable after 1861 due to the one hundred year confidentiality rule). Before 1841, the data collected in the census are not sufficient to render statistical analysis practicable or particularly useful. Even before Beresford, the geographical potential of material from

the census had been recognised by Lawton who undertook a very early study of Liverpool.⁽⁴⁾

The circumstances and events which led to the initiation of the censal collections in 1801 have been detailed by Drake.⁽⁵⁾ The first four decennial censuses (1801-1831) were collected by Overseers of the Poor, and were relatively elementary in terms of the type of information obtained, but the census of 1841 marked the beginning of the collection of detailed data on the population of England and Wales. 1841 was the first year in which the census was conducted by officials from The General Register Office, which had been created only four years earlier in 1837, and, for the first time, individual household schedules were used. Such innovations greatly improved the accuracy of the data collected and a decade later, in 1851, further changes, including the introduction of additional questions into the schedules, resulted in even greater precision. Subsequent censuses, throughout the rest of the nineteenth-century, were, in the main, the same as that of 1851, although with relevance to their use in any analysis, the books for the 1861 census have survived less well than those for other years due to past storage problems. Detailed discussions of the methods of censal compilation throughout the last century may be found elsewhere, in several sources already cited.⁽⁶⁾

For Wrexham, microfilm copies of the unpublished census enumerators' books were available for three

years - 1851, 1861 and 1871. The books relating to the year of 1881 were not available when this study commenced, although in the meantime, of course, they have been released.⁽⁷⁾ It was believed that the census enumerators' books of 1841 for Wrexham had been lost but during an examination of North-East Wales, Pryce had traced a local copy of this census for the town.⁽⁸⁾ A search at the Public Record Office for Clwyd at Ruthin revealed such a manuscript copy and this was also incorporated into the study, so that the four censal years 1841-1871 provided the basic social data for the study.

For two of the years, 1851 and 1871, the material appeared to be intact, but the poor condition of the 1861 census meant that some entries were missing. The number of missing entries was too small to seriously affect the analysis or to justify the removal of the year of 1861 from the overall study. The local surviving copy of the 1841 census also proved to have some entries missing. The manuscript contained data on a total of 4,875 individuals while the published census gave a total of 5,854 for the town of Wrexham at that date. This would suggest that approximately one thousand entries were missing and these were mostly from the South-western sector of the town. Again the missing entries could not be rectified but it was felt, as with the 1861 data, that the advantages of including 1841 in the analysis outweighed the disadvantages of data omission. For each census, every individual

within Wrexham was analysed, with no resort to any form of sampling. Thus the total population for which data were available and which were subsequently coded was 27,166 (Figure 2.1).

Figure 2.1
Wrexham: Population Totals

<u>Year</u>	<u>Total Population</u>
1841	4,875
1851	6,714
1861	6,668
1871	8,909
Total	27,166

At this point it would seem useful to examine what data can be extracted from the census enumerators' books and to discuss the accuracy and reliability which may be placed on such data. In 1841, the questions asked of the population by the census were relatively few and elementary in nature. Details were collected about an individual's name, age, sex, profession or trade, and also where he or she was born, although this information was included in relatively few categories of birthplace.⁽⁹⁾ Some information was also collected on the location of each person and also on the state of each house, that is, whether a house was inhabited, uninhabited or in the process of being built. Although the street names were used, the numbers or names of houses were only rarely given in the books,

which makes the determination of the exact location of some houses very problematic.

In 1851 and continuing in the following censuses, additional questions were introduced into the schedules. All of the information collected in 1841 was again assembled but, in addition, the number or name of each house was recorded and there was greater precision in the recording of birthplace data and ages, which in 1841 had only been accurate to the nearest unit of five years for everyone over the age of fifteen. At the same time, additional material collected also included an individual's relationship to the head of the household, and his or her marital condition.

Although no specific information on an individual's relationship to the household head was collected in the census of 1841, this relationship can often be inferred from an examination of the makeup of the whole household, utilising any available information such as names, ages, sex etc. Where such information pointed toward the nature of these relationships within the household, such inferences were included in the data used in this analysis for 1841. Such details were, of course, rather speculative and need to be treated as such when considering the results of the analysis. If there was any doubt about the nature of the relationships within the household for any family in 1841, then the relationships were entered as unknown, thus avoiding

mere speculation without at least some foundation.

Several authors have considered the accuracy and value of data derived from the census enumerators' books and the use of such data in geographical research. Tillot⁽¹⁰⁾ suggested that, in general, the census returns are reliable, particularly for the years 1851 and 1861 with which he was mainly concerned, with only a slight amount of error. Because the census enumerators' books are copies of information originally collected on household schedules there are probably some errors of copying related particularly to problems of illegibility and the interpretation of the original schedules. In fact, the enumerators often had to correct and standardise the household schedules whilst the district registrars and the clerks in the census office were also authorised to undertake revisions. Such revisions and corrections invariably led to some errors being made within the returns but Tillot suggests that such errors were slight.

It does appear that there was some mis-statement of age in the census returns, although during the nineteenth-century it is likely that some people were unaware of their correct age and therefore had to make calculated (or uncalculated) guesses. Anderson,⁽¹¹⁾ in an examination of age data for Preston (Lancashire) found that ages were generally consistent between 1851 and 1861. In a test of 475 inhabitants who could be traced in both census years, less than 1% of the ages were in excess of five years in error. At the same

time, Anderson also compared birthplace data for the two years (1851 and 1861) and found that 14% of the sample had a discrepancy between the two dates. Such investigations serve to suggest that on the whole census data are reliable but this reliability does vary according to which information within the census is examined.

Tillot⁽¹²⁾ has used contemporary local directories to check occupational information returned in the census - occupational information which he considered to be less liable to falsification in the census despite problems of definition and some ambiguity in the instructions issued with the schedules. For Sheffield in 1851, 42% of the household heads from the census were traced in the 1852 Whites Directory and in 83.3% of these cases the directory confirmed the returns in the enumerators' books. Often the entry in the directory was more detailed than that in the census and, in addition, some directory entries upgraded or inflated the occupations, probably due to the general function of a directory as an advertising medium.

Another problem concerning censal occupation data is that until 1881 retired workers were often returned in their former occupations. It is difficult to determine the extent of this practice although the numbers involved are probably not large enough to significantly affect any analysis. Similar problems exist with individuals who followed more than one occupation. In general the census returns did not

allow for dual or multiple occupations and often additional interests only come to light when comparing censal information with parallel sources. In a similar way, the part-time employment of women and farm workers may also be understated in the census returns, although again, the extent of such ambiguity is hard to precisely define. Tillot⁽¹³⁾ has outlined elsewhere the several difficulties which plague any analysis of the censal information concerning the employment of women.

Other problems which emerge from the occupational data relate to the employment of children under the age of fourteen years, some of whom were undoubtedly engaged in full-time occupations, and therefore need to be included in any analysis. At the other extreme, other categories of person returned no employment at all in the census and yet still managed to maintain themselves. Such problems have to be examined carefully and systematically resolved but in general the great mass of occupational data presented few problems and were completely unambiguous. However, in addition to the content errors which have been outlined above, there is another category of error which is much harder to examine - errors of omission. Obviously complete omissions from the census do occur occasionally, but the extent of such errors is hard to define, particularly for the nineteenth-century when the procedure of collecting the census was probably not so sophisticated as in later years. Thus in general,

researchers have to assume that the accuracy of data derived from the census is acceptable despite the many problems, and any inaccuracies which do exist are assumed to be randomly distributed throughout the data.

2.3 Wrexham: Data Extraction

Armstrong,⁽¹⁴⁾ in the earliest systematic exploitation of census data for a single town (in this case, York), used a ten percent sample of the total data set for two years, 1841 and 1851. Most subsequent studies have followed his lead and have resorted to some type of sampling, but in the present study, the total populations for all four census years (1841-1871) were analysed. In general, the dominance of sampling has been due to the length of time involved in coding up data for a town of any size. For Wrexham, in all years, data for over 27,000 individuals (see Figure 2.1) were coded onto separate computer cards. An individual scheme of coding was chosen over the more usual arrangement of households or families because it is both much quicker in terms of time and more flexible in its subsequent use.

On each computer card, ten separate units of information were entered, using only thirty-two columns of an available total space of eighty columns. The ten units of data were each separated by an empty column on the coding sheets to aid the speed and facility of the initial copying and subsequent

checking. Full details are given in Appendix A but they are also summarised below.

The first four columns represent the household identity which ensured that individuals could be aggregated up if necessary into household units for any subsequent analysis. The next two columns contain the codes for the different enumeration districts into which Wrexham was divided. In 1871 there were ten such enumeration districts, whilst in 1851 and 1861 there were only eight. The following three columns constitute the street identities, of which there were over two-hundred entries in all, throughout the four census years. The inclusion of this code enabled the data to be analysed at street level, which formed an important part of the analysis.

The fourth, fifth, sixth and seventh entries relate to the relationship to the household head (two columns), marital status (one column), sex (one column) and age (three columns) of each individual respectively. There were eighty different codes in all for the relationship to household head entry, ranging from close relationships such as wife, brother and mother, to the more casual relationships of lodger, visitor and governess. The information relating to marital status was subsumed within seven codes, which included the five possible married or unmarried states and two separate codes relating to children under the age of fifteen years and to that instance when the status was unknown, which was mainly used in the data

from the 1841 census. Details of the coding schemes used are given in Appendix B.

The final three variables coded up were occupation (three columns), the number of employees, if given (one column) and birthplace (three columns). Individual codes were used for each separate occupation as entered in the original census enumerators' books and, in all, seven hundred and thirty-three different occupations and codes were utilised. Thus the occupational information initially retained its original simple form but at a later date, relevant recoding schemes were used on ~~these~~ data to produce the necessary groupings into industrial groups and socioeconomic classes. In contrast, the number of employees employed by any individual was only very rarely returned for the town of Wrexham, but, where possible, it was included in the analysis for the sake of completeness.

Birthplace data were initially coded in a similar vein to that for occupation and they were retained in their most detailed form. Individual parishes within the counties of Denbighshire, Flintshire, Merionethshire, Shropshire and Cheshire, adjacent to the town of Wrexham, were given separate codes, whilst further afield, individual codes were given for each county within England and Wales, and the metropolis of London. Separate codes were also used for Scotland, Ireland and the Isle of Man, as well as for any foreign countries given in the original census books. General descriptions such as "Wales", "U.K.", "Britain" etc.

Figure 2.2
Recoding of Birthplace Data

1. Wrexham
2. Denbighshire, Flintshire and Merionethshire
3. North and South Wales:

Anglesey	Montgomeryshire
Breconshire	Pembrokeshire
Caernarvon	Radnorshire
Cardiganshire	North Wales
Carmarthenshire	South Wales
Glamorgan	Wales
Monmouth	
4. North West England:

Cheshire	
Lancashire	
Shropshire	
5. English Midlands:

Derbyshire	Rutland
Herefordshire	Staffordshire
Leicestershire	Warwickshire
Northamptonshire	Worcestershire
Nottinghamshire	
6. South East England:

London	Hertfordshire
Bedfordshire	Kent
Berkshire	Middlesex
Buckinghamshire	Oxfordshire
Essex	Surrey
Hampshire	Sussex
7. England (Rest Of):

Cambridgeshire	Lincolnshire
Cornwall	Norfolk
Cumberland	Northumberland
Devon	Somerset
Dorset	Suffolk
Durham	Westmorland
Gloucestershire	Wiltshire
Huntingdon	Yorkshire
Isle of Man	England
8. Scotland
9. Ireland
10. Foreign

were also given separate codes. During the subsequent analysis, this information was recoded into a more logical system of areas (Figure 2.2).

Such a detailed breakdown of birthplace data was not possible for the 1841 census when only very general information had been sought. Thus for 1841 there was only a five-fold division of the birthplace data (Figure 2.3). Although less detailed, such information for 1841 was readily incorporated into the overall analysis.

Figure 2.3
Coding of Birthplace Data - 1841

-
1. Denbighshire
 2. England and Wales - with the exception of Denbighshire
 3. Scotland
 4. Ireland
 5. Foreign
-

The recoding of the occupational data, in terms of industrial groups and socioeconomic classes, immediately led to the problem of which grouping systems should be applied. For industrial groupings, most previous studies have utilised a classification system first developed by Charles Booth in the last quarter of the nineteenth-century (1886), modified for their own particular data sets. This present study

also makes use of the Booth system, as suggested by Armstrong,⁽¹⁵⁾ with only minimal pertinent modification. This resulted in a final arrangement of thirteen industrial groups (Figure 2.4).

Figure 2.4
Industrial Groups
(after Booth, Armstrong).

01	Agriculture and Breeding
02	Mining
03	Transport and Building
04	Manufacture
05	Dealing
06	Public and Professional Service
07	Domestic Service
08	Industrial Service
09	Independent
10	Residual
11	Specialised Fair
12	Labourers
13	Paupers

Individuals were each assigned to one of these groups according to the guidelines set out in the work already cited by Armstrong. One modification was the introduction of a specialised group (number 11), for those engaged in fair occupations. This was necessary because at least one of the censuses was conducted during the time of the annual March Fair when the town's population was enlarged by numbers of people associated with the fair.⁽¹⁶⁾ Such people, who were only present in the town for a very limited period, were often engaged in very specialised occupations, such as "Exhibitor of Living Curiosities", "Hobby Horse

Attendant", "Public Orator Outside of a Show", and "Traveller with Sparing/Tumbling Booth". To reduce the discrepancies which the inclusion of such occupations would incur on the general analysis of industrial groups, these fair occupations were brought together to form a separate grouping representing a mobile, itinerant, entertaining population. The rest of the groups follow the general system of industrial groupings widely used by previous research workers in this field.

Much more controversy surrounds the use of a specific system for the organisation of occupational data into socioeconomic classes.⁽¹⁷⁾ The dispute involves the relevance and usefulness of a classification first used by Armstrong in 1966 in his work on York⁽¹⁸⁾ and subsequently utilised by many researchers. This classificatory system is based on a scheme drawn up by the Registrar-General for the 1951 census, with only slight modification.⁽¹⁹⁾ The socioeconomic classification as used by Armstrong has five categories (Figure 2.5).

Figure 2.5
Socioeconomic Classification
(after Armstrong)

-
1. Professional
 2. Intermediate
 3. Skilled
 4. Partly Skilled
 5. Unskilled
-

The basic criticism of this scheme is the size of the resulting class 3 which usually emerges as being very large and all-enveloping, with only a clear differentiation between those individuals of wealth and those in poverty. Others have argued that a scheme devised for the census of 1951 cannot be successfully applied to the middle years of the nineteenth-century when occupational descriptions and their attendant social implications were markedly different from those of the following century.

In reply to such criticisms, Armstrong has reiterated that the scheme can only be used as a crude tool of analysis, since the nineteenth-century censuses do not include enough occupational detail to give more subtle insights into an individual's social status.⁽²⁰⁾ Alternative schemes have been suggested, including one by Royle⁽²¹⁾ who essentially uses information on servants and employees to gain additional insight into social status. Royle makes a reappraisal of the Registrar-General's 1951 scheme in two ways: he abandons class 4, the partly skilled, which he considers to be inappropriate to the nineteenth-century, and at the same time he subdivides the large class 3 on the grounds of the numbers of servants and/or employees employed by the household head. Thus the resultant classification again has five categories.

Some, including Carter and Wheatley,⁽²²⁾ have suggested that there are legitimate reasons for using

the Armstrong classification in preference to that devised by Royle. In this present study it was decided to incorporate the basic scheme of Armstrong with the necessary modifications applicable to the data for Wrexham. Thus the results from this study were comparable with many other studies which is an important consideration. Further, it should be noted that the aim of the classification was to delimit broad socioeconomic groups for inclusion in a multivariate analysis of the town, rather than a delimitation of precise social classes. In Merthyr Tydfil, Carter and Wheatley found that the majority of domestic servants were young girls who would have had little effect on the social status of their employers, and a similar situation emerged in Wrexham. In such an environment the presence of domestic servants does not provide sufficient evidence to upgrade the social class of the employer. As Banks asserts, any grouping of occupations into social classes must always involve a large arbitrary element,⁽²³⁾ and the decision to use Armstrong's classification rather than that of Royle was ultimately a purely personal one.

The grouping procedure used was based essentially upon Armstrong's work on the 1951 Registrar-General scheme together with several pertinent modifications.⁽²⁴⁾ Thus in some cases, employers who returned the number of employees they had were upgraded to a higher socioeconomic class. Individuals in classes 3 and 4 who employed between one and

twenty-four employees were upgraded to classes 2 and 3 respectively, but those initially placed in class 2 and employing similar numbers of employees remained in class 2 and were not upgraded. Any individual, initially placed in any class, who employed more than twenty-five employees was upgraded to class 1, irrespective of his trade. Apprentices and assistants were classified according to their trade if it was given, whilst ambiguous entries with the term "apprentice" only were placed in a residual class (class 6). Such instances were very rare and few in number. Shop assistants and "assistants" were placed in class 3, as were farmers. For Wrexham, a predominantly commercial town, very few farmers were returned and there was little additional information on acreages to distinguish between large and small concerns, so it seemed wise to return all farmers in the single class.

In general, the great majority of the occupations offered few problems in their assignment to the relevant classes and any problematic cases were soon assigned using the above rules. The total populations for each of the four census years (1841, 1851, 1861 and 1871) were allocated to one of the six socioeconomic classes which emerged and these data were included as part of the total data set in four separate Principal Components analyses. These analyses, undertaken at the level of the street, form the essential core of this study of Wrexham and the initial preparation of

the census data for inclusion constituted an important aspect of the work. Several computational problems with regard to the data had to be resolved prior to the analyses.⁽²⁵⁾

One problem concerned the nature of the administrative boundaries within Wrexham which sub-divided the town into three separate areas or townships - Wrexham Regis, Wrexham Abbot and several detached portions of Esclusham Below. Some streets were split between two of these administrative units and each part was therefore returned separately by the census enumerators. Because the analyses were to be undertaken on a street basis, individuals living in any one street had to be grouped together by means of a sorting procedure, prior to analysis, to ensure that street units were easily identifiable within the complete data set.

Problems also arose during the computing because of the large numbers of individuals involved in the analyses (Figure 2.1). For the year of 1871, a total of 8,909 individuals had to be analysed which proved too large to be completed in one unit so that the data had to be divided into two parts. This meant that the initial procedures to derive data for the subsequent Principal Components analysis had to be duplicated on two data sets for that one year. The number of cases for 1841 (4,875) was small enough to analyse as one unit with few problems. The data for 1851, involving 6,714 individuals, were also analysed as a single data

set but so many problems emerged that the 6,668 cases relating to 1861 were again split into two parts before analysis. Such forced duplication of the various computational procedures lengthened the data preparation period quite substantially, and this is one aspect which should be seriously considered when researchers decide to undertake a detailed examination of large data sets.

2.4 Principal Components Analysis

Eventually an acceptable data set was prepared for analysis by Principal Components in an effort to bring out the underlying social structure of the town for the four censal dates.⁽²⁶⁾ For three of the years, 1851, 1861 and 1871, the same data set was analysed, composed of a total of forty-two variables (Figure 2.6).

The first ten variables are concerned with what might loosely be termed 'ethnic status', in that they examine the birthplaces of individuals living in Wrexham. Variables 11-20 examine the socioeconomic status of the population. Variables 11-13 concentrate on the heads of households only, whilst variables 14-16 include the total adult populations living in any one street. In this analysis the age of fifteen years was taken as the lower limit for adulthood, so that all individuals over the age of fourteen years were included as adults. During the nineteenth-century children went out to work at an early age and some

Figure 2.6

Variables Included in The Principal Components Analysis and Cluster Analysis for 1851, 1861 and 1871 (Street Level)

Ethnic Status: (% of population born in:)

1. Wrexham
2. Denbighshire, Flintshire and Merionethshire
3. North and South Wales
4. North West England
5. English Midlands
6. South East England
7. England (Rest Of)
8. Scotland
9. Ireland
10. Foreign

Socioeconomic Status: (% of household heads in:)

11. Socioeconomic Groups 1 and 2
12. Socioeconomic Group 3
13. Socioeconomic Groups 4 and 5

(% of total adult population in:)

14. Socioeconomic Groups 1 and 2
15. Socioeconomic Group 3
16. Socioeconomic Groups 4 and 5
17. % of Households with Lodgers
18. Mean Number of Lodgers Per Household
19. % of Households with Domestic Servants
20. Mean Number of Domestic Servants

Family Status:

21. Households as a % of the Total Households in the Town
22. Mean Household Size
23. Mean Age of Household Head

(% of total population aged:)

24. 0 - 4 years
25. 0 -14 years
26. 15 -59 years
27. 60+ years
28. Sex Ratio: Females/Males
29. Fertility Ratio
30. % of Single, Unmarried Household Heads
31. % of Widowed, Female Household Heads
32. % of Households with "Lodger Families"

Occupational Status: (% of total adult population in:)

33. Agriculture and Breeding
34. Mining
35. Transport and Building
36. Manufacturing
37. Dealing
38. Public and Professional Service
39. Domestic Service

(% of total adult population who are:)

40. Independent
41. Engaged as Labourers
42. Returned as Paupers

Notes:

- (1) For the definition of which counties make up the general areas given in variables 3-10, see Figure 2.2.
- (2) In this data set the term "total adult population" refers to every person over the age of 14 years, i.e. aged 15 years or more.

younger than fifteen years undoubtedly were in full time employment, but such cases were not included. Variables 17 and 18 utilise information concerning those households in the street which include lodgers, while variables 19 and 20 bring out the presence or absence of domestic servants.

The variables in the next section (numbers 21-32) all relate in some way to family status and most are self-explanatory from Figure 2.6. The fertility ratio (variable 29) was calculated by dividing the number of children aged 0-4 years, by the number of females aged 15-44 years within each street. Another variable which may require some elucidation is number 32 which concerns the percentage of households in a street with "lodger families". This represents an attempt to examine one aspect of shared accommodation within the town, despite the fact that in Wrexham, as indeed Pryce found in the whole of North-east Wales,⁽²⁷⁾ shared dwellings were relatively scarce and hard to recognise from the census enumerators' books.

Because it was felt necessary that some aspect of shared dwellings be included in the Principal Components analyses, to ensure that these analyses were as comprehensive as possible, it was decided to concentrate attention on the somewhat specialised case where an individual enumerated as a lodger in a particular household was accompanied by a wife and/or children. This situation would suggest that a whole family was lodging with another; to all intents and

purposes two families sharing one dwelling. This specialised variable (variable 32) was the only possibility involving multiple-occupancy which could be included in the analyses. The final section of variables (numbers 33-42) all relate to occupational groupings of various kinds. For each variable, the percentage of the total adult population within each street engaged in a particular industrial group was calculated.

These forty-two variables constituted the input data for three of the censal years to be examined (1851, 1861 and 1871), but for 1841 insufficient data were available for all variables to be included, so a modified version of this data set was developed for that year. Thus for 1841, only thirty variables were included in the Principal Components analysis but efforts were made to ensure that these variables related as near as was possible to the expanded data set of forty-two variables (Figure 2.7).

As can be seen from Figure 2.7, only five variables concerned with 'ethnic status' could be included in the analysis for 1841. In the census of that year, individuals were asked if they were born in the county of residence. Returns of "yes" were entered in variable one, while returns of "no" were subsumed within the very general second variable. In addition, an entry of 'S', 'I' or 'F' in the relevant column of the census returns, referred to a birthplace of Scotland, Ireland or Foreign parts respectively; a

Figure 2.7

Variables Included in The Principal Components Analysis and Cluster Analysis for 1841 (Street Level)

Ethnic Status: (% of population born in:)

1. Denbighshire
2. All of the Counties of England and Wales, except Denbighshire
3. Scotland
4. Ireland
5. Foreign

Socioeconomic Status: (% of household heads in:)

6. Socioeconomic Groups 1 and 2
7. Socioeconomic Group 3
8. Socioeconomic Groups 4 and 5

(% of total adult population in:)

9. Socioeconomic Groups 1 and 2
10. Socioeconomic Group 3
11. Socioeconomic Groups 4 and 5

Family Status:

12. Households as a % of the Total Households in the Town
13. Mean Household Size
14. Mean Age of Household Head

(% of total population aged:)

15. 0 - 4 years
16. 0 -14 years
17. 15 -59 years
18. 60+ years
19. Sex Ratio: Females/Males
20. Fertility Ratio

Occupational Status: (% of total adult population in:)

21. Agriculture and Breeding
22. Mining
23. Transport and Building
24. Manufacturing
25. Dealing
26. Public and Professional Service
27. Domestic Service

(% of total adult population who are:)

28. Independent
29. Engaged as Labourers
30. Returned as Paupers

Note:

- (1) In this data set the term "total adult population" refers to every person over the age of 14 years, i.e. 15 years or more.

more detailed breakdown of birthplace data was impossible. Similarly, no data were available on lodgers or servants and such variables had to be excluded from the analysis. For the 1841 data, the term "household head" was generally applied to the first entry in any one household in the census returns.

For all four years (1841, 1851, 1861 and 1871) these data derived from the census were analysed using the Principal Components solution available in "S.P.S.S. The Statistical Package for the Social Sciences".⁽²⁸⁾ None of the data were transformed towards normality, nor were any rotations, oblique or orthogonal, utilised. Both Clark⁽²⁹⁾ and Bennett⁽³⁰⁾ have argued that there is little statistical justification for transforming data, implying that any data used in a Principal Components solution need not conform to normality. Thus the data were utilised as given in Figures 2.6 and 2.7 without manipulation of any kind. However using the data set for 1851 and following the initial Principal Components analysis, two rotations, varimax and oblique, were applied to the data and the results were compared with the unrotated solution. The rotated solutions did not appear to increase our understanding of the underlying social structure within the town for 1851, giving little justification for the use of rotations in this analysis. Thus for each of the census years, an unrotated Principal Components solution was deemed to be acceptable in terms of the overall analysis.⁽³¹⁾

These analyses for all four dates at the street level form the core of this examination of the town of Wrexham. However for one year, 1851, the scale of the analysis was reduced to that of the household and another Principal Components solution was obtained. Because of the large numbers involved (in 1851 there were 1,310 households in Wrexham) and therefore the length of time needed, it was only possible in practice to undertake this household analysis for one year, although originally it had been hoped to utilise the 1871 data in the same way. The data for 1851 were disaggregated into household units and then statistical procedures were reapplied to produce the input data for this secondary analysis. The forty variables which constituted the data were closely related to those used in the earlier street analyses, with only pertinent modifications to relate the variables to the household rather than the street (Figure 2.8).

Most of the variables shown in Figure 2.8 are self-explanatory and relate very closely to the variables used in the street-level analyses (compare with Figures 2.6 and 2.7). Much more will be written about this Principal Components analysis undertaken at the household level in a later chapter (Chapter 8), when the results from the analysis will also be presented.

Figure 2.8
Variables Included in The Principal Components Analysis for 1851
(Household Level)

Ethnic Status: (% of population born in:)

1. Wrexham
2. Denbighshire, Flintshire and Merionethshire
3. North and South Wales
4. North West England
5. English Midlands
6. South East England
7. England (Rest Of)
8. Scotland
9. Ireland
10. Foreign

Socioeconomic Status: (% of total adult population in:)

11. Socioeconomic Groups 1 and 2
12. Socioeconomic Group 3
13. Socioeconomic Groups 4 and 5
14. Household Head in Socioeconomic Groups 1 and 2
15. Household Head in Socioeconomic Group 3
16. Household Head in Socioeconomic Groups 4 and 5

Family Status:

17. Single Head - Male or Female
 18. Widowed Female Head
 19. Households with Lodger Families
 20. Household Size - Number in Household
 21. Age of Household Head
 22. Lodger Index - number of lodgers/number in household
 23. Servant Index - number of servants/number in household
 24. Household Index - number in nuclear family/ number in household
 25. Sex Ratio - Females/Males
 26. Child Ratio - children aged 0-4/ number in nuclear family
- (% in household aged:)
27. 0 - 4 years
 28. 0 -14 years
 29. 15-59 years
 30. 60+ years

Occupational Status: (% of total adult population in:)

31. Agriculture and Breeding
32. Mining
33. Transport and Building
34. Manufacturing
35. Dealing
36. Public and Professional Service
37. Domestic Service

(% of total adult population who are:)

38. Independent
39. Engaged as Labourers
40. Returned as Paupers

Notes:

- (1) For the definition of which counties make up the general areas given in variables 3-10, see Figure 2.2.
- (2) In this data set the term "total adult population" refers to every person over the age of 14 years, i.e. aged 15 years or more.

2.5 Cluster Analysis

The data listed in Figures 2.6 and 2.7 compiled at the street level were also utilised in a clustering procedure available in the "Clustan" computer package.⁽³²⁾ Essentially such procedures simplify a large data set by reducing a large number of individuals into a smaller number of clusters by grouping those individuals in terms of their similarity.⁽³³⁾ In this study, the clustering procedure grouped those streets which were most similar in terms of the 42 (or in the case of 1841, 30) variables used in the analysis. The Ward's Error Sum clustering procedure was used because of its apparent reliability.⁽³⁴⁾

At the outset of the study it had also been hoped to subject the data aggregated at a household level to a clustering routine but it was found that the large amount of data exceeded the limits of this clustering procedure. For 1851, the total of 1,310 households far exceeded the case limit of 500 imposed by the computer, so that this part of the analysis had to be abandoned. However some use was made of the household data for 1851, by subjecting percentage data for the first two components which emerged from the Principal Components analysis, to the clustering routine. Further explanations of the method and the results will be presented later in Chapter 8.

From this discussion of the census, it is obvious that this source provided the core of this examination of Wrexham during the middle decades of the nineteenth-century. However, secondary sources are perhaps equally as important in any historical analysis, by providing additional insight into social conditions within the town. Several other sources have been consulted in this study of Wrexham and these will now be briefly considered in turn.

2.6 Secondary Sources

Useful social comments about the condition of life in Wrexham during the nineteenth-century were obtained from an examination of local newspapers, several of which served the town. In particular, "The Wrexham Advertiser" was more useful than other newspapers because it was available for a relatively long time period.⁽³⁵⁾ Originally, a monthly newspaper, The Wrexham Advertiser changed very little in format throughout its early years, until January 1857 when its weekly successor came into existence as "The Wrexham and Denbighshire Weekly Advertiser". This newspaper contained useful editorial comment on the social state of the town, particularly concerning the improvements undertaken during the 1850's and 1860's when Wrexham experienced some expansion.

Another supplementary source which proved to be useful in describing conditions, particularly in the

poorer parts of the town, was the Public Health Report produced for Wrexham at the end of 1849 by George T. Clark the Superintending Inspector.⁽³⁶⁾ At that time, the town was unincorporated, with no recognised boundaries; Wrexham did not become a borough until 1857. At the same time, however, the population totalled just under 7,000 with an excessive mortality rate of 29.2 per 1,000 people.⁽³⁷⁾ In the Report, several parts of the town were highlighted as being in particularly poor condition and several witnesses related very expressive descriptions of these areas to the inquiry.

Rate books have been utilised elsewhere and they have proved to be successful in the differentiation of property. For Wrexham, quite a comprehensive set of rate books ~~were~~ available and several books were chosen as being representative of the period. The data were used to substantiate or refute conclusions put forward from the analysis of the social conditions in the town undertaken on the census. The earliest available rate book dated from June 1859 and this was examined, along with those for 1871 and 1880, to augment the decennial censuses.⁽³⁸⁾ Holmes has outlined elsewhere, the problems involved in analysing rate book data.⁽³⁹⁾ However, for Wrexham the rate books were in relatively good condition and therefore presented few problems of legibility, etc. Data from the rate books proved to be most useful when interpreting the results of the censal analysis.

In the past, trade directories have most commonly been used to illustrate the changes that occurred in commercial activity, both over time and space, and they are invaluable in any attempt to describe the central area of a town.⁽⁴⁰⁾ In this examination of Wrexham, trade directories occupied an essentially supporting role in that they were used to provide additional information only, rather than occupying a central place in the analysis. For the town, both national and local trade directories were available, covering adequately the whole of the nineteenth-century.⁽⁴¹⁾

Old prints and photographs proved useful in providing knowledge of the physical fabric of Wrexham throughout the later decades of the nineteenth-century in particular, helping to give the author a "feel" for the town.⁽⁴²⁾ Maps, the basic tools of the geographer, were also of great importance.⁽⁴³⁾ The basic map used was the first edition of the 25 inch Ordnance Survey map dating from 1872/74, while the Ordnance Survey, 10 foot map of 1872 provided important additional detail. For the earlier period, a John Wood map dating from 1833 was particularly useful.⁽⁴⁴⁾

These then constitute the essential sources which were examined in this study of Wrexham during the middle decades of the last century. By far the most important source was the census, which was analysed in great detail and at length. However, before the results of the study are presented, Chapter 3 will provide some historical background for the town of Wrexham itself.

2.7 Notes

1. Two edited volumes which provide help in the use of sources are: a) Wrigley, E.A. (Ed.), (1972) Nineteenth-century Society. Essays in the Use of Quantitative Methods for the Study of Social Data, Cambridge University Press, Cambridge. b) Lawton, R. (Ed.), (1978) The Census and Social Structure. An Interpretative Guide to Nineteenth Century Censuses for England and Wales, Cass, London.
2. Armstrong, W.A. (1974) Stability and Change in an English County Town. A Social Study of York, 1801-1851, Cambridge University Press, Cambridge.
3. Beresford, M. (1963) "The Unprinted Census Returns of 1841, 1851 and 1861 for England and Wales", Amateur Historian, Vol.5(8), p.260-269.
4. Lawton, R. (1955) "The Population of Liverpool in the Mid-Nineteenth Century", Transactions of the Historic Society of Lancashire and Cheshire, Vol.107, p.89-120 and reprinted elsewhere.
5. Drake, M. (1972) "The Census 1801-1891", In Wrigley, E.A. (Ed.), (1972) Nineteenth-century Society. Essays in the Use of Quantitative Methods for the Study of Social Data, Cambridge University Press, Cambridge, p.7-46.
6. Several sources detail how the census was compiled and collected: Drake, M. (1972) op.cit.

- Armstrong, W.A. (1978) "The Census Enumerators' Books: A Commentary", In Lawton, R. (Ed.), (1978) The Census and Social Structure. An Interpretative Guide to Nineteenth Century Censuses for England and Wales, Cass, London, p.28-81.
7. This present study was undertaken between October, 1978 and September, 1981 so material from the 1881 census could not be incorporated into the analysis.
 8. Pryce, W.T.R. (1971) The Social and Economic Structure of Northeast Wales, 1750-1890, Unpublished Ph.D. thesis, C.N.A.A. (Lanchester Polytechnic, Coventry). See also: Pryce, W.T.R. (1973) "Manuscript Census Records for Denbighshire in the Nineteenth Century", Transactions of The Denbighshire Historical Society, Vol.22, p.166-198.
 9. For the 1841 census, individuals were asked if they were born in the county of residence (in this case, Denbighshire) or not (answered yes or no). Those born in Scotland, Ireland or foreign parts were also differentiated. Those answering "no" to the above, were thus born somewhere in England and Wales, outside Denbighshire, but more specific information on birthplace could not be obtained.
 10. Tillot, P.M. (1972) "Sources of Inaccuracy in the 1851 and 1861 Censuses", In Wrigley, E.A. (Ed.), (1972) op.cit. p.82-133.

11. Anderson, M. (1971) Family Structure in Nineteenth Century Lancashire, Cambridge University Press, Cambridge. This is his basic study but see also: Anderson, M. (1972) "The Study of Family Structure"(1) and "Standard Tabulation Procedures for the Census Enumerators' Books"(2) In Wrigley, E.A. (Ed.), (1972) op.cit. p.47-81(1); p.135-145(2). Anderson, M. (1973) "Sampling and Coding of Household Data from Census Enumerators' Books", In Lawton, R. and Pooley, C.G. (Eds.), (1973) Methodological Problems in the Statistical Analysis of Small Area Data, Social Geography of Nineteenth-century Merseyside Project, Working Paper No.2.
12. Tillot, P.M. (1972) op.cit.
13. Tillot, P.M. (1972) op.cit.

For a discussion of occupational statistics in general see: Bellamy, J.M. (1978) "Occupation Statistics in the Nineteenth Century Censuses", In Lawton, R. (Ed.), (1978) op.cit. p.165-178.
14. Armstrong, W.A. (1966) "Social Structure from the Early Census Returns. An Analysis of Enumerators' Books for Censuses After 1841", In Wrigley, E.A. (Ed.), (1966) An Introduction to English Historical Demography, From the Sixteenth to the Nineteenth Century, Weidenfeld and Nicolson, London, p.209-237. See also: Armstrong, W.A. (1974) op.cit.

15. Armstrong, W.A. (1972) "The Use of Information About Occupation", In Wrigley, E.A. (Ed.), (1972) op.cit. Chapter 6, p.191-310. For a detailed breakdown of the classification system proposed by Booth, see particularly Part 2: "An Industrial Classification, 1841-1891", p.226-310.
16. In 1851 the census was conducted on the 30th March and in 1861 on the 7th April.
17. For an interesting introduction to this problem see: Banks, J.A. (1978) "The Social Structure of Nineteenth Century England as Seen Through the Census", In Lawton, R. (Ed.), (1978) op.cit. p.179-223.
18. Armstrong, W.A. (1966) op.cit. Armstrong, W.A. (1974) op.cit.
19. Armstrong, W.A. (1972) op.cit. particularly Part 1: "A Basis for Social Stratification", p.198-225. This includes a detailed listing of occupations. See also: Armstrong, W.A. (1973) "Socio-economic Classification of Occupational Data", In Lawton, R. and Pooley, C.G. (Eds.), (1973) op.cit.
20. Armstrong, W.A. (1978) op.cit.
21. Royle, S.A. (1977) "Social Stratification from Early Census Returns: A New Approach", Area, Vol.9, No.3, p.215-219. For a comment on this paper and a reply by Royle see: Holmes, R.S. and Armstrong, W.A. (1978) "Social Stratification", Area, Vol.10, No.2, p.126-129.

22. Carter, H. and Wheatley, S.E. (1982) Merthyr Tydfil in 1851. A Study of the Spatial Structure of a Welsh Industrial Town, Social Science Monographs, No.7, University of Wales Press, Cardiff.
23. Banks, J.A. (1978) op.cit.
24. Armstrong, W.A. (1972) op.cit.
25. All the computing for this study was achieved at the University of Manchester Regional Computer Centre (UMRCC) using the remote link from the Aberystwyth computer unit.
26. For a general introduction to factor analysis (of which Principal Components analysis is one procedure) see: Goddard, J. and Kirby, A. (1976) An Introduction to Factor Analysis, Catmog No.7, Norwich. More specifically concerned with the latter is: Daultry, S. (1976) Principal Components Analysis, Catmog No.8, Norwich. These are both part of the series - Concepts and Techniques in Modern Geography (CATMOG). Another useful work is: Clark, D.; Davies, W.K.D. and Johnston, R.J. (1974) "The Application of Factor Analysis in Human Geography", The Statistician, Vol.23, p.259-281.
27. Pryce, W.T.R. (1971) op.cit.
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Components solution was used throughout - type PA1.

29. Clark, D. (1973) "Normality, Transformation and the Principal Components Solution: An Empirical Note", Area, Vol.5(2), p.110-113.
30. Bennett, D. (1977) "The Effects of Data Transformations on the Principal Components Solution", Area, Vol.9(2), p.146-152.
31. For an interesting working example of Factor Analysis and the use of rotations see: Carter, H. and Wheatley, S.E. (1982) op.cit. particularly section 12, p.71-79.
32. Wishart, D. (1969) Fortran 11 Programs for 8 Methods of Cluster Analysis (Clustan 1), State Geological Survey, University of Kansas (Lawrence) Computer Contributions 38,9.
33. For an introduction to Cluster Analysis see: Dollar, C.M. and Jensen, R.J. (1971) Historian's Guide to Statistics, New York, particularly Chapter 6. For the empirical and theoretical considerations of several different clustering procedures see: Johnston, R.J. (1975) Classification in Geography, Concepts and Techniques in Modern Geography (CATMOG) No.6, Norwich.
34. Ward's original proposition of his method may be examined in: Ward, J.H. (1963) "Hierarchical Grouping to Optimize an Objective Function", The Journal of the American Statistical Association,

Vol.58, p.236-244. For an example of its use see: Carter, H. and Wheatley, S.E. (1982) op.cit. particularly part 2; sections 9, 10 and 11; p.52-71. See also: Aitchison, J.W. (1974) Cluster Analysis, Regionalism and the Agricultural Enterprises of Wales, Commission on Agricultural Typology, Verona.

35. An incomplete run of The Wrexham Advertiser can be consulted at The National Library of Wales, for the period from 1850 to the middle years of the twentieth-century. Microfilm copies of newspapers are also available at Wrexham Public Library including The Wrexham Advertiser (1850-1957), The Wrexham and North Wales Guardian (1877-1954) and The Wrexham Leader (1920 onwards).
36. Clark, G.T. (1850) Report to the General Board of Health on a Preliminary Inquiry Into The Sewerage, Drainage and Supply of Water and the Sanitary Condition of the Inhabitants of the Town, Borough or Place of Wrexham, London. (The actual report was given on October 30th 1849, but published the following year). It can be consulted at The National Library of Wales, on microfiche - card 211, No.392. See also: Clark, G.T. (1851) Report to the General Board of Health on a Further Inquiry as to the Boundaries which might be most Advantageously Adopted for the Borough of Wrexham, London, (Report given on 17th February 1851), N.L.W. Microfiche, Card 211, No.393.

37. Clark, G.T. (1850) op.cit.
38. Wrexham Rate Books for the period 1859 to 1940 have been deposited in The National Library of Wales, Aberystwyth. The following rate books for the Borough of Wrexham were used in this study: June 8th 1859; February 28th 1871; September 28th 1880.
39. Holmes, R.S. (1973) "Ownership and Migration From a Study of Rate Books", Area, Vol.5, p.242-251.
Holmes, R.S. (1974) "Identifying Nineteenth-century Properties", Area, Vol.6, p.273-277. The original work of the author may be examined in:
Holmes, R.S. (1977) Continuity and Change in a Mid-Victorian Resort. Ramsgate 1851-1871, Unpublished Ph.D. thesis, University of Kent, Canterbury.
40. The potential of trade directories for research is discussed in: Lewis, C.R. (1975) "Trade Directories - A Data Source in Urban Analysis", The National Library of Wales Journal, Vol.XIX, p.181-193.
41. The earliest surviving directory dates from 1789 and was published by W. Cowdroy in Chester. Of the national directories, Slater and Pigot are well represented. Pigot directories are available for 1819 (published by Pigot and Dean), 1822, 1828/9 and 1844; Slater directories date from 1858/9, 1868, 1880 and 1895. William Robson published a directory which included Wrexham in

1839/40, whilst John Worrall published a directory of North Wales at Oldham in 1874. Another local directory was published by Cassey in Chester in 1876 which included the chief towns of North Wales. A similar compilation appeared in Manchester in 1889/90, published by Alfred Sutton. This list is far from exhaustive but it does give some indication of the wealth of trade directory material available for Wrexham. Full details of the above directories are given in the bibliography.

42. Good collections of photographs can be consulted in the Clwyd County Record Office at Ruthin and also in Wrexham Public Library. Some photographs have been collected together in the following book: Williams, W.A. (1983) Old Wrexham - A Collection of Pictures, Bridge Books, Wrexham.
43. Harley, J.B. (1963a) "A Guide to Ordnance Survey Maps as Historical Sources. III The Maps of England and Wales at the Six Inch and Twenty-five Inch Scales", The Amateur Historian, Vol.5(7), p.202-211. Harley, J.B. (1963b) "A Guide to Ordnance Survey Maps as Historical Sources. IV The Town Plans and Small-scale Maps of England and Wales", The Amateur Historian, Vol.5(8), p.251-259.
44. All three maps (and others) can be consulted at the Clwyd County Record Office, in Ruthin.

CHAPTER 3

THE TOWN OF WREXHAM

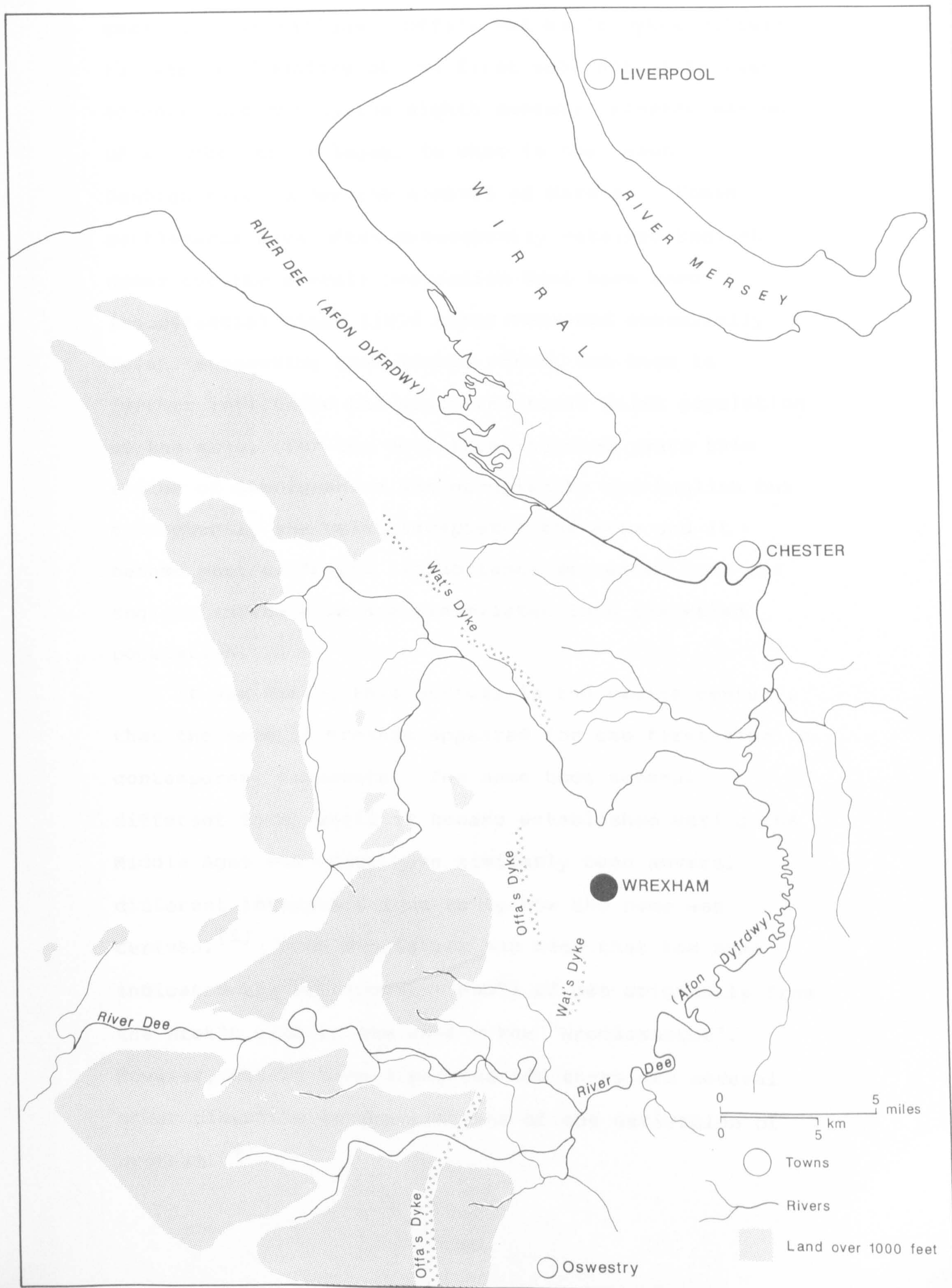
3.1 Introduction

Before turning to look at the internal structure of Wrexham, it is proposed to give a short historical outline of the town's growth, to isolate those features which had a bearing on its layout and divisions in the nineteenth-century. Of necessity, this will be brief.

The border location has ensured that over time Wrexham has developed as a town where different traditions and cultures have merged. At various times throughout its history, both Welsh and English influences have shaped the town's development and the Wrexham that has emerged may accurately be termed an Anglo-Welsh settlement.⁽¹⁾ Lying to the east of both Wat's Dyke and Offa's Dyke and being located only some twelve miles from the English stronghold of Chester, Wrexham is in that part of North-east Wales which was periodically under the control of English lords, although the countryside essentially retained its traditional Welsh character. Figure 3.1 shows the general border location of Wrexham and its nearness to the English plain to the east. This traditional English influence has clearly asserted itself in the name of Wrexham.

Figure 3.1

The Location of Wrexham.



The settlement of Wrexham probably originated as a small Mercian village. Offa's and Wat's Dykes delimit the western boundary of the first substantial English advance and during the eighth century| Wrexham was one of a number of villages, in what is now east Denbighshire, under the control of Mercia. These settlements have often subsequently retained English names but the overall occupation must have been insubstantial since field names remained essentially Welsh, suggesting that little effort was made to further infiltrate the scattered rural Welsh population of the area. For the next three-hundred years this region of Denbighshire was 'occupied by the English but subsequently the Welsh recaptured the area and it became part of Powys. Inhabitants descended from the English invaders became assimilated into the Welsh population.⁽²⁾

It was during this period, in the twelfth century, that the name of Wrexham appeared for the first time in contemporary documents. The name took several different forms until it became established during the Middle Ages and there have similarly been several different interpretations as to how the name was derived.⁽³⁾ One suggestion has been that the name indicated the settlement ("ham") of men originally from the Wrekin area to the east - the "Wrocansaeton". However, others have disagreed and there are several other plausible interpretations of the derivation of Wrexham.⁽⁴⁾

Between 1086 and 1277 the region around Wrexham was part of the native Welsh lordship of Maelor (called Bromfield by the Saxons) but the town was not mentioned in the Domesday Book of the former year. Wrexham formed one of the administrative centres of the lordship (Marford was also designated as such a centre) although within the commote of Wrexham there were other townships which could have fulfilled the role. Some of these townships, such as Esclusham, were inhabited by free tribesmen but others, including Wrexham, were made up of bondmen only.

In 1202, the lord of Maelor, Madoc ap Gruffydd, granted some of his demesne lands in "Wrechcesham, Berercessham and Actun" to the Cistercian Abbey of Valle Crucis which he had recently founded.⁽⁵⁾ This meant that part of the township of Wrexham was now controlled by a separate manor, and in later years it was this area which formed the separate township of Wrexham Abbot. The area which remained under the control of the secular lord later became known as the township of Wrexham Regis. Thus, this basic administrative division within the town, which has survived throughout the subsequent centuries, had its foundation early in the thirteenth century. Even during our period of interest, the nineteenth-century, Wrexham was mainly divided between the two townships with a few additional portions of land belonging to a third township - Esclusham (Detached).



During the thirteenth century, Wrexham became exposed more and more to influences from the east and increasingly Maelor fell under the domination of the English. Even before the area again came under actual control, English influences spread westward as the Welsh lords copied the practices of their neighbours in the Marches. However in 1282, the lordships of Bromfield (including Wrexham) and Yale were taken on behalf of the crown to form a new English lordship, Marcher, and since that date Bromfield has always been controlled by English lords. The lordship of Bromfield and Yale was granted to various servants of the King but it never formed the main possession of any lord so that these lords were usually absent from the area. Within the lordship, Wrexham occupied an important role as an administrative centre and this function encouraged the town to adopt an essentially English character, although much of the remainder of the lordship was still Welsh in outlook and practice.

3.2 Medieval Wrexham

The first detailed description of the township was undertaken by Thomas of Sheffield in 1315 when he conducted a survey of the whole lordship of Bromfield and Yale. At this time Wrexham was still essentially Welsh, despite almost fifty years of English domination. Of the total of forty-four tenants in the town, thirty-six were Welsh which suggests that in the

main the foreign English preferred to live at Holt which had been specially developed as an English stronghold.

During the early medieval period, Wrexham remained little more than an agricultural village. The village was unfree, in that the whole township was held on unfree tenures, although by this time the labour services were often commuted. At some time during this period a group of families left the township and moved across the river Gwenfro to establish a small hamlet which became known as Wrexham Fechan ("Little Wrexham"), a name which still survives today but in relation to a single street only.

Although Wrexham was by no means an urban settlement at this time, it did begin to undergo urban development, particularly following the reorganisation of the lordship on the marcher pattern in 1282. Development had been stunted whilst the area had remained a racial and political border but once the region became linked to the lands to the east by sovereignty, Wrexham began to grow as the administrative centre of the new lordship. Nonetheless, records from the courts held at Wrexham reveal the rustic character of the town. The town's intermediate location made it an obvious centre for the exchange of goods between upland and lowland, and the trades which dominated the township were those of an agricultural community such as millers, carpenters, shoemakers, smiths etc., similar in kind if not in

number to other smaller townships within the area.⁽⁶⁾ Even at this early date, the market function of Wrexham was developing and it was an important gathering place for the whole of the lordship.

The town itself was small and fairly typical of the period, with unpaved streets often filled with refuse, and unlit at night. Small wattle and daub cottages often served as workshops as well as places of habitation, whilst gardens at the rear offered shelter to pigs, poultry and other livestock. During the times of the fairs and markets, stalls crowded the main commercial street, High Street, enhancing the importance of the town. At the same time there were very few public buildings and the church of St. Giles was undoubtedly the most impressive building in the town, as it was to remain throughout succeeding centuries.⁽⁷⁾ Thus, although Wrexham throughout the medieval period performed many of the functions associated with well-developed English boroughs, it remained a predominantly rural, Welsh township with no self-government or elected officials.

During the later years of the Middle Ages, the lordship of Bromfield and Yale was brought more directly under the control of the crown. In 1536, during the reign of Henry VIII, Bromfield and Yale was joined with three other lordships to form the new Shire of Denbigh. The area was then submitted to the full control of the English system of administration and law (Figure 3.2). The extension of a settled government

DENBIGH SHIRE

FLINT SHIRE

CHESHIRE

MONTGOMERY SHIRE

SANCT ASADA

Part of Montgomery Shire

Part of Cheshire

Part of Flint Shire

Part of Denbigh Shire

Scale of Miles

Coat of Arms

Inset Map

Legend

Notes

Performed by John Speed and are to be filled in Paper lead

Alley against the exchange by John Speed and George Ham

Alley, from Denbigh

105

over the area made wider communications possible, particularly to the east, which, as well as anglicising the town, also added to Wrexham's importance in commercial terms as the main market settlement between the two economic systems, upland and lowland.

Such developments in its commercial and marketing function greatly increased the prosperity of Wrexham, particularly through the collection of market tolls.⁽⁸⁾ Wrexham has a record of market tolls dating back to 1390 but the market rights were first granted in 1632 to William Collins and Edward Fenn. The markets were now visited by tradesmen from a much wider area than before, particularly from more distant parts of England. There were twice weekly local markets in the town (on Monday and Thursday) and frequent sales of cattle, but more important were the three annual fairs which each lasted for approximately twelve days - the March fair which was the largest (beginning on March 23rd); the smaller Honey fair held in September (September 19th); and a third fair which was held in June (June 16th).⁽⁹⁾

Gradually the town lost its Welshness and became very English in character. However the rural townships within the larger parish of Wrexham maintained their Welsh language and culture.⁽¹⁰⁾ During this period, Wrexham served as the social centre for an important group of gentry who lived in large estates around the town but who also often built impressive town houses in Wrexham itself. Members of this small, basically

English, elitist group came to dominate the town socially and politically, and often they occupied public offices in the absence of elected members. Following the widespread adoption of primogeniture amongst the gentry, younger sons were often apprenticed to craftsmen within the town thereby emphasising the importance of such craftsmen within Wrexham.

At this time Wrexham was still small although the more wealthy inhabitants were beginning to withdraw to the pleasures of the countryside. The church remained the dominant building in the town, particularly following its rebuilding after a fire during the Tudor period, but there was now also a Shirehall which served as the civic centre of Wrexham. One visitor of the time, Thomas Churchyard, the Elizabethan topographer, described the town thus:

"Trim Wrixham towne, a pearl of
Denbighshire."(11)

In the centre of the town, in the streets leading from High Street, shops and inns were closely integrated with the homes of wealthy tradesmen and during market days, stalls still filled the main streets. Less salubrious areas within the town were also emerging, such as Brook Street, where the river running down the street was not culverted until late in the nineteenth-century. Pentre'r felin (Abbots Mill)

emerged as a self-contained community whilst Wrexham Fechan retained its individuality which involved having its own common fields and pasture.

Away from the middle of the town, open fields were soon encountered but even within Wrexham itself there were numerous gardens and orchards which helped retain Wrexham's rustic character. Many residents had personal malt kilns and craftsmen still worked in sheds adjacent to their homes. Such rural activities as brewing and tanning undertaken within the town environment must have exacerbated health problems which were a general feature of all towns at this time due to the lack of sanitation.

In general, the basic street layout of Wrexham, as it will be shown later in the nineteenth-century, was already essentially formed by the Tudor period with few changes in the succeeding centuries.⁽¹²⁾ The urban area was shared between three townships; Wrexham Regis, Wrexham Abbot (those lands given to the Valle Crucis Abbey early in the thirteenth-century but subsequently transferred to lay ownership following the dissolution of the Abbey in 1536) and Esclusham Below.

During the Civil War, in 1643, an extensive fire severely damaged the town and almost a quarter of Wrexham was burned down. Many buildings were lost, including the Shirehall, although in the eighteenth-century a new Town Hall was built on the site of its predecessor. Early in the war, Wrexham remained loyal to the King but after the town fell to the puritans in

1645/6 it became a stronghold of puritan support in North Wales and as such Wrexham derived a new dominance in the area as a garrison town and administrative centre for the Roundheads. While some of the older gentry reasserted themselves within the town, the English puritan influences increased the anglicisation of the formerly Welsh Wrexham, although rural areas were able to retain their native character. By the end of the seventeenth-century the English element in the town was noticeably larger.

Following the restoration in 1660, national economic conditions in general were unfavourable to the lower echelons of the gentry and the yeomen, and socially such families went into a decline. However wealthier families such as the Wynns of Wynnstay and later the Cunliffes of Acton were able to weather the storm and prosper.⁽¹³⁾ Thus on the eve of the eighteenth-century there developed a small number of great families which came to dominate the region at the expense of the lesser gentry. At the same time this process did allow the commercial interests within Wrexham to come to the fore although at the expense of the latter's former political superiority.

3.3 The Eighteenth-century

Outwardly, Wrexham changed very little between the end of the seventeenth-century and the middle of the nineteenth-century. During the intervening period,

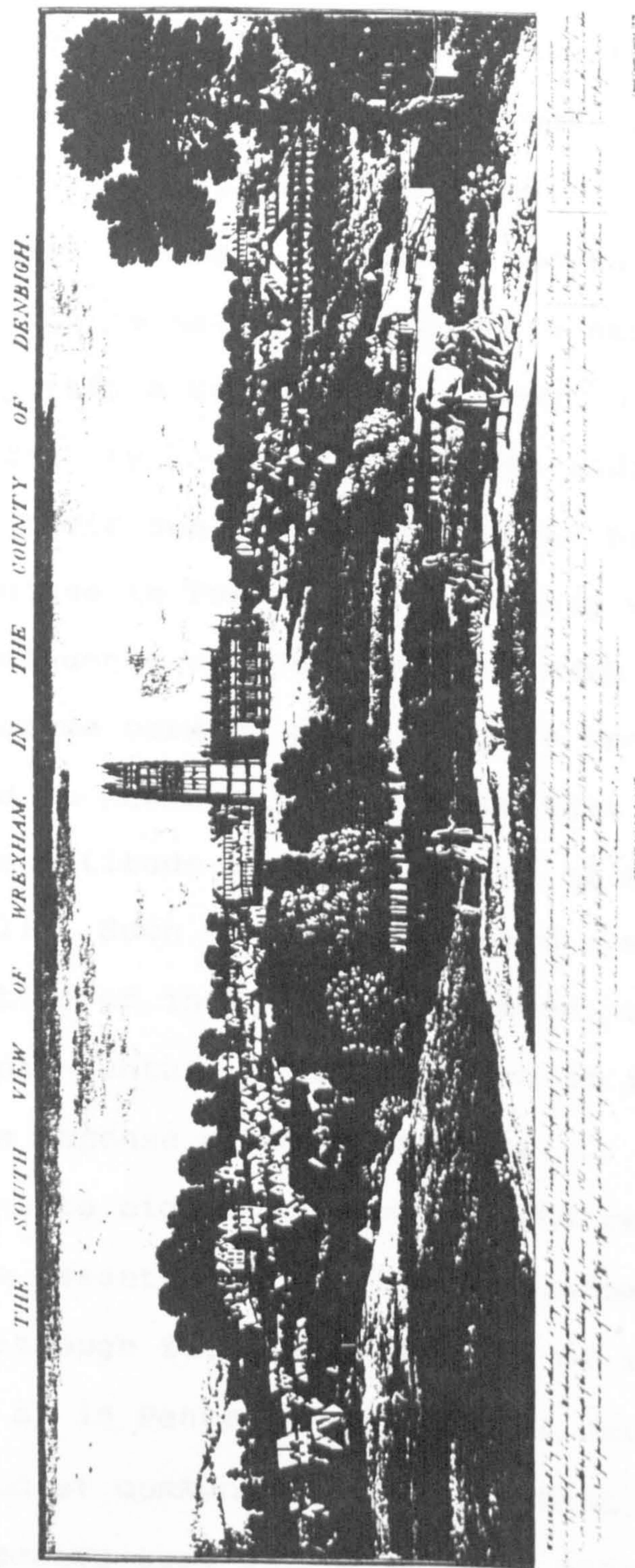
the town did not grow to any great extent and no industry developed within Wrexham to encourage large-scale in-migration.

Wrexham still retained something of a rustic air in which town houses for gentlemen residents were still the norm. Newer, more modern villas also began to appear on the outskirts of the town, particularly toward the end of the century, as the gentry turned their attention away from the central area itself. Such villas were occupied by prosperous lawyers and retired businessmen who could afford to move their families out into the countryside. By the eighteenth-century, Wrexham Fechan was no longer a separate hamlet across the river, but had become linked more securely to the town itself, while to the south-west, building also went on in Penybryn where older, smaller cottages were supplanted by larger homes.⁽¹⁴⁾

The building or enlarging of older houses was often undertaken in brick instead of wood and plaster, and this resulted in a prosperous appearance to the town. An eighteenth-century visitor commented on the "variety of pleasant brick villas", and thought that Wrexham seemed to be "the capital of North Wales".⁽¹⁵⁾ Within the town itself, urbanisation had still not become dominant and many areas were still open and rural in aspect, including Island Green and the area known as The Walks near the river Gwenfro (Figure 3.3).

Industry was still predominantly based on the age-old activities of the countryside around Wrexham

Figure 3.3



Source: Clwyd County Record Office, Ruthin.

and was still confined to small domestic workshops.⁽¹⁶⁾ Throughout the century however, there was some development in the tanning industry. Tanyards began to grow along the river in Pentrefelin and out into Penybryn, from the early decades of the period and some large-scale concerns eventually emerged, which supplied numerous workers in allied industries.

Commercial brewing, the other dominant industry in Wrexham during the main period of this study, was only of minor importance until the very beginning of the nineteenth-century. Before then most individuals and inns brewed their own ale or took their malt to the public brewhouse in Town Hill. Brewing was an important influence on the town from much earlier times however, because brewers and retailers became concentrated in Wrexham Abbot due to that township's more lenient attitude to the grinding of malt in the communal mill. Such an inducement had a marked effect on the location of inns within the town, and throughout the eighteenth-century inns proliferated in Wrexham Abbot at the expense of Wrexham Regis.

By the late eighteenth-century the residents of Wrexham were essentially English in custom and language, although there were pockets of surviving Welsh, such as in Pentrefelin, a small but thriving Welsh, Methodist community. The resident gentry and large shopkeepers were all of English extraction and Wrexham had more the look of an English rather than a Welsh town during this period. In 1770 a traveller

proclaimed that Wrexham was...

.."so perfectly Englished...that it bears no resemblance to the generality of Welsh towns."(17)

However the thirteen country townships within the larger parish of Wrexham remained predominantly Welsh and it was in these rural areas that Methodism developed its roots in the area.⁽¹⁸⁾ In terms of population, the rural townships contained twice as many inhabitants as the urban centre of Wrexham, so that the English shopkeepers of the latter relied heavily on the Welsh inhabitants of the former for their livelihood. Thus throughout the eighteenth-century and early nineteenth-century a common feature in the important newspapers of the area, published in Chester and Shrewsbury, were the adverts for shop assistants with a knowledge of Welsh to fill vacancies in Wrexham. Such assistants acted as mediators between the English tradesmen of the town and the predominantly Welsh clientele. It was not until later in the following century that Welsh (and other English) businessmen moved into Wrexham and opened up new establishments to supersede these old English shop-owners.

It was during the eighteenth-century that the chapmen who converged on the town during its annual fairs, particularly the fortnight-long, famous March

Fair, built the squares that have become a characteristic feature of the town. The squares were built to aid the selling of goods by the chapmen and each square housed a particular trade or group of chapmen. Thus chapmen from Lancashire congregated in Manchester Square while the tradesmen from Yorkshire initially occupied Yorkshire Hall in Tuttle Street. Yorkshire Square (formerly Hall) became an infamous slum area during the following century, after the chapmen had moved on first to Birmingham Square and later to Union Square. Although built to improve the selling of goods, the squares often became congested and usually acted as sources of infection and ill-health.

During this period, the gentry served as the main officers of government within the town, in the absence of an elected corporate body.⁽¹⁹⁾ At the court leets, regulations were made and enforced to control agriculture, trade and the social standards of life in the town but the court leets began to decline at the end of the eighteenth-century; during the next century such courts as vehicles of government became obsolete. In their place, there emerged the Vestry, which governed the whole parish of Wrexham. Originally concerned with only church business, the Vestry expanded into more secular areas of parish life from the end of the eighteenth-century. In 1785 a permanent general overseer was appointed for the parish, supported by two overseers for each township within the

parish.

Throughout the eighteenth-century, improvements to public amenities depended on private enterprise or private subscriptions. In 1737, a workhouse was built by subscriptions from gentry resident in the town and neighbourhood, but its operation still proved to be a burden on the rates. As the century progressed the relief of the poor became more and more important in the affairs of the parish and the church. However most improvements were left to the social activists of the nineteenth-century.

During the century, the formation of turnpike trusts in the area and the ensuing road improvements increased Wrexham's role as a centre for the distribution of goods throughout the region.⁽²⁰⁾ The main roads between Wrexham and the neighbouring towns of Shrewsbury, Chester, Ruabon, Mold and Ruthin were all repaired and improved. The resulting increase in Wrexham's role as a distribution centre also led to the emergence of the printing trade within the town. The development of railways in the succeeding century completed the transport network serving the town and the industrial centres in its vicinity. Transport improvements allied to developments in the technology of both mining and metal working encouraged a great boom in the industry of the whole neighbourhood around Wrexham, towards the end of the period.

Lead had been worked at Minerva near Wrexham since Roman times and during the seventeenth-century small

quantities of lead were smelted at Wrexham Fechan. However, it was the application of coal to lead-smelting and later iron-smelting, at the end of the seventeenth-century and early eighteenth-century which led to the large-scale exploitation of coal and the rise of mining villages in Wrexham parish.⁽²¹⁾ The iron furnace at Bersham was using coke from the early eighteenth-century but the great industrial boom occurred later, in the reign of George III. In 1763 John Wilkinson took over the Bersham iron works from his father and later (1792) he bought the Brymbo Hall estate near Wrexham for his new iron works. The Brymbo Hall estate was very rich in coal and iron, and by 1840 there were forty coal pits working on the estate.⁽²²⁾

As the workings throughout the area became exhausted during the following century, mining moved to the northern parts of Wrexham parish, nearer to the town itself. Real exploitation of the coal field occurred during the nineteenth-century,⁽²³⁾ and Wrexham became the centre of mining and iron manufacturing in Denbighshire, when its supremacy over other towns in the area, such as Denbigh, was confirmed.⁽²⁴⁾

3.4 The Nineteenth-century

..."eminent for its lovely site, the salubrity of its air, purity of its springs...(Wrexham) presents to the Valetudinarian, individuals and families of small fortune, a healthy and agreeable retreat. It is most delightfully

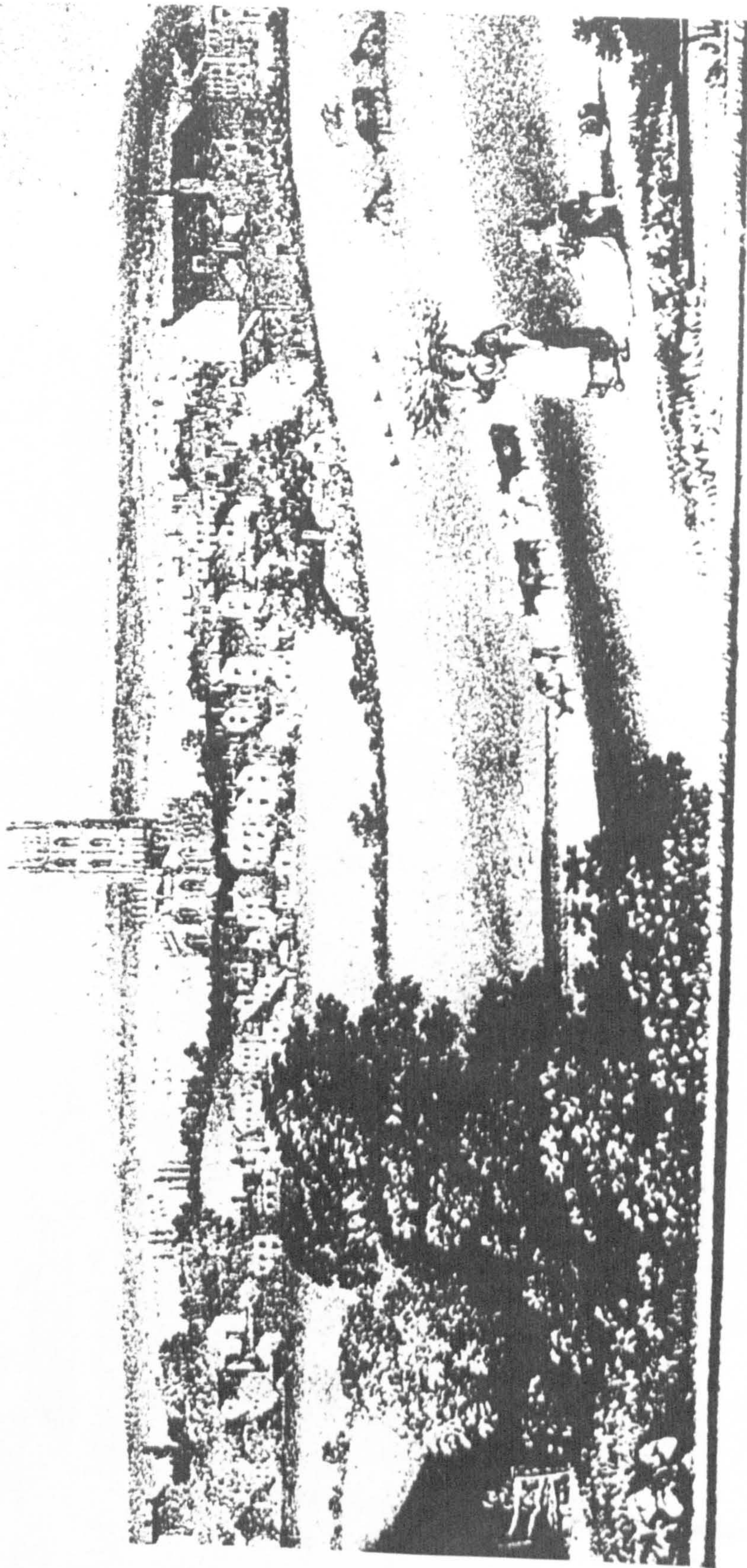
situated and from its extent and importance it has been denominated the metropolis of North Wales."(25)

Despite the above description, from the early years of the nineteenth-century industrial growth began to change the character of the town and led to the all too common problems of congestion and decay although on a relatively small scale.⁽²⁶⁾ Even so, this process of urbanisation did not immediately cause Wrexham to lose its rustic appearance. As late as the middle of the century there were still approximately six hundred pigstyes* within the urban area, all of which remained unregulated, as well as at least ten houses for the slaughter of cattle (Figure 3.4). The John Wood map of Wrexham drawn in 1833 (Figure 3.5) reveals the limited extent of the town at this date and its rural aspects and open spaces.

Throughout the nineteenth-century both breweries and tanyards began to encroach on the remaining open spaces within the town and in some areas this led to health problems. The first public brewery, The Albion Brewery which was situated near the church, was not opened until 1799 but many more soon followed in its wake. Nearly a dozen large breweries began operating along the river Gwenfro, either having developed from older, smaller family concerns or else taking over the premises of former tanyards.⁽²⁷⁾ By the 1880s, there were nineteen breweries listed (in trade directories)

* See A.H. Dodd (1957), p. 95/96.

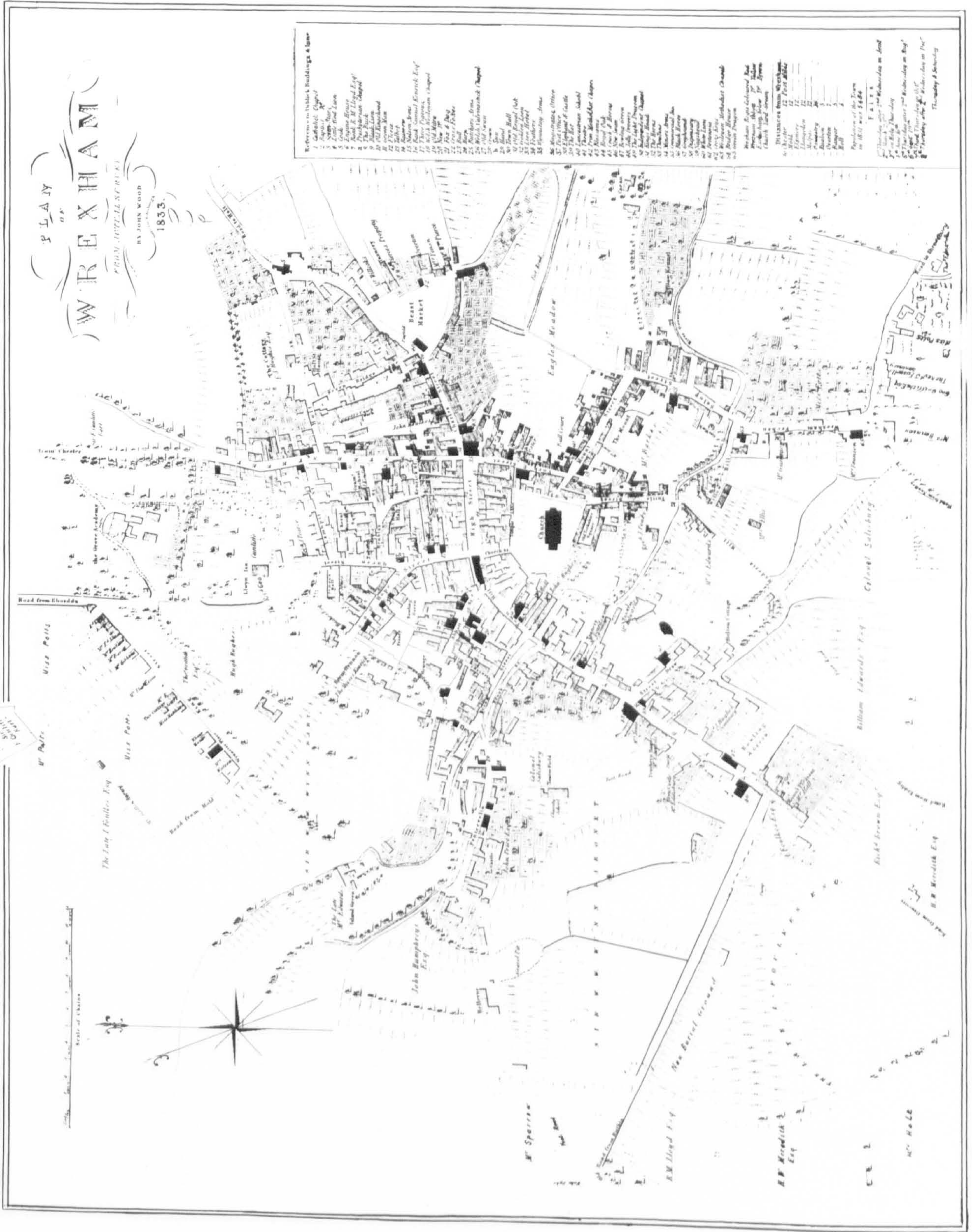
Figure 3.4



WREXHAM FROM THE EAST, 1847

Source: Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire.

Figure 3.5



Source: Dodd, A.H. (Ed.), (1957)
A History of Wrexham, Denbighshire.

for the town and six independent malt houses. These concerns served over sixty public houses and more than twenty shops with off-licences. In 1849 a report in the Wrexham Registrar (newspaper) proclaimed the town to have a:

"population of shopkeepers and tradesmen, grocers, drapers, millers and miners, with a most unreasonable number of innkeepers and publicans..."(28)

Both the large brewing operations and the tanyards which developed along the river Gwenfro helped to create areas with severe health problems. Often the congested gutters, full of waste from such operations, fed directly into the river. The river passed directly through the town, down the middle of Brook Street and it was not culverted here until relatively late in the century. Some attempts were made to stop the dumping of such waste material including an order by the court leet for Wrexham Regis in 1845 which stated that:

"The bed of the River commonly called the Brook Syde...requires cleansing, and a public notice given to all parties not to deposit any rubbish therein and the usual penalties according to Law."(29)

Such measures were ineffective in the face of the scale of the problem.

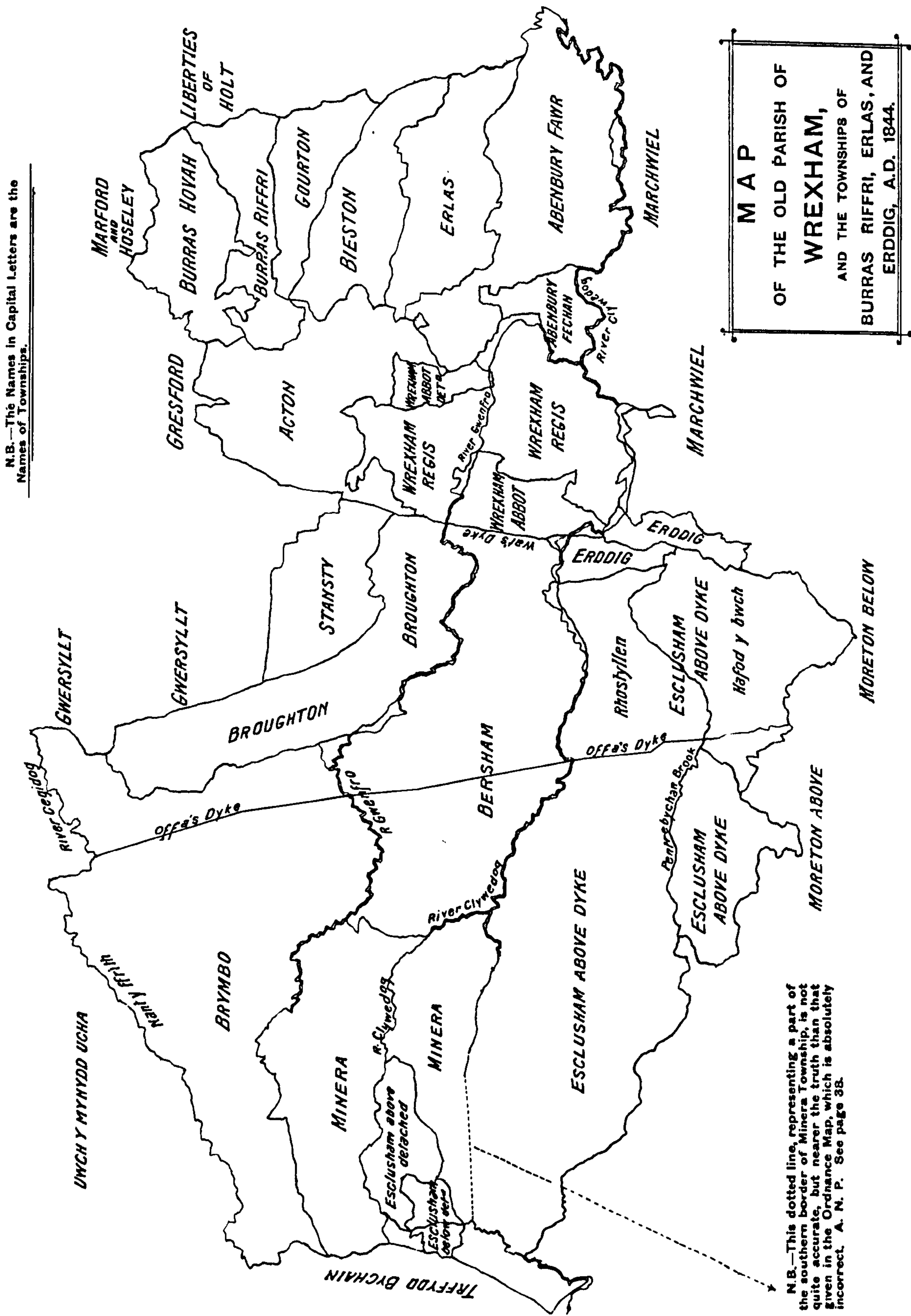
By the beginning of the century the old court system of government within the town was outmoded and

after 1847 there was very little business actually recorded for the courts leet. The parish vestry retained the only real authority in secular as well as religious matters but, in practice by this period, the town was out of step with the rural parish. Although the town only formed seven percent of the total parish (Figure 3.6) there was greater call to deal with the problems of the town itself; yet the vestry could not levy a rate on the whole parish for the benefit of the town alone. Thus the differences and inconsistencies between the rural areas and the town of Wrexham rendered the government of both by one organisation extremely difficult, if not impossible. Some improvement was hoped for when a committee was set up to attend to the problems of the poor but in 1834 Poor Law administration was put under the control of the new Unions and the elected Guardians of the Poor. In 1840 a new workhouse was built outside the town under this new system.

Within the town, most of the population lived in small houses and cottages. In 1832 Wrexham was admitted along with Ruthin and Holt as a contributory borough to the parliamentary borough of Denbigh. Under this Act which established the £10 franchise for borough electors, just over three hundred householders in Wrexham were qualified to vote.

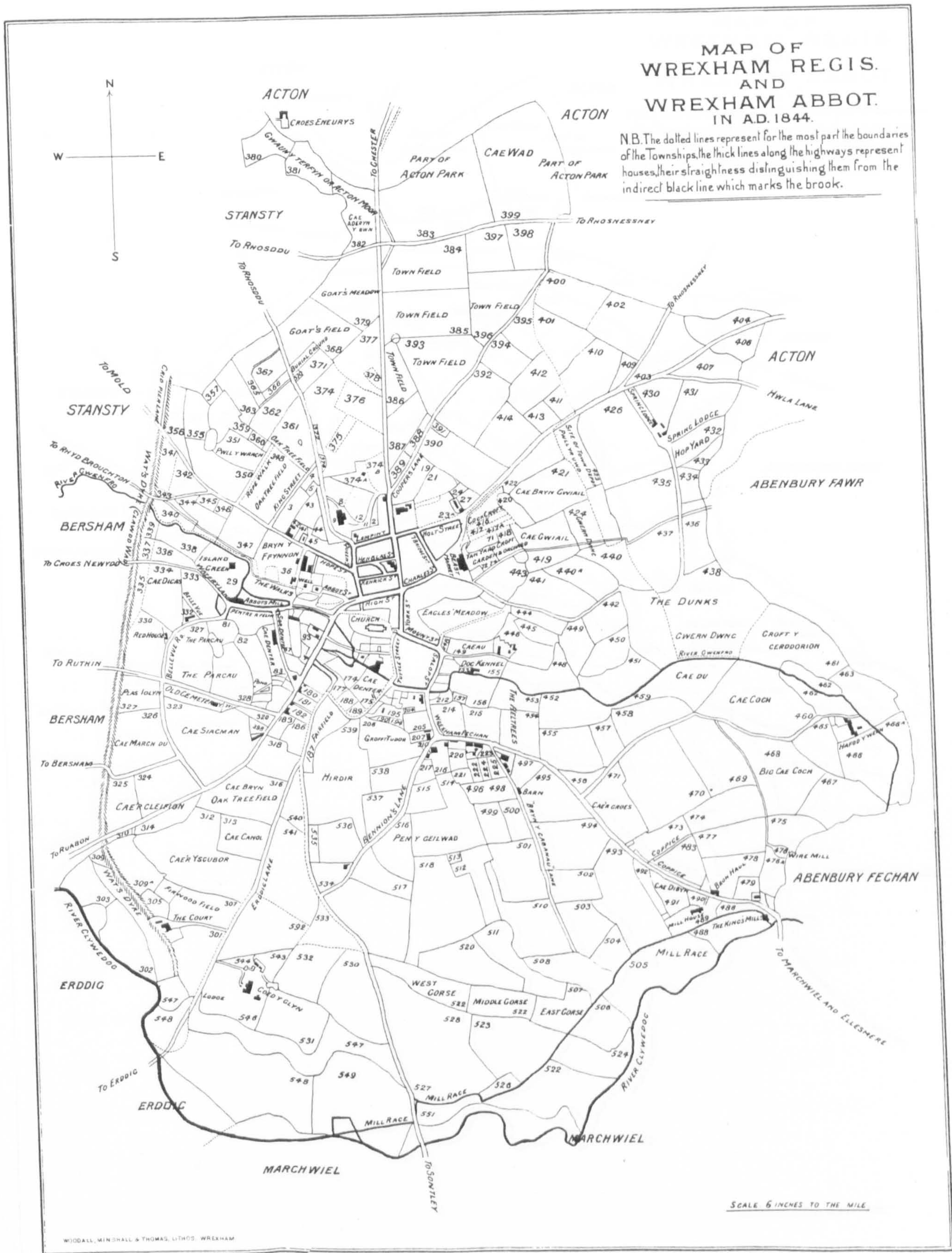
In 1801 there was a total population of approximately 4,000 in the urban area of Wrexham, which had grown to over 6,000 by mid century (Figure 3.7).

Figure 3.6



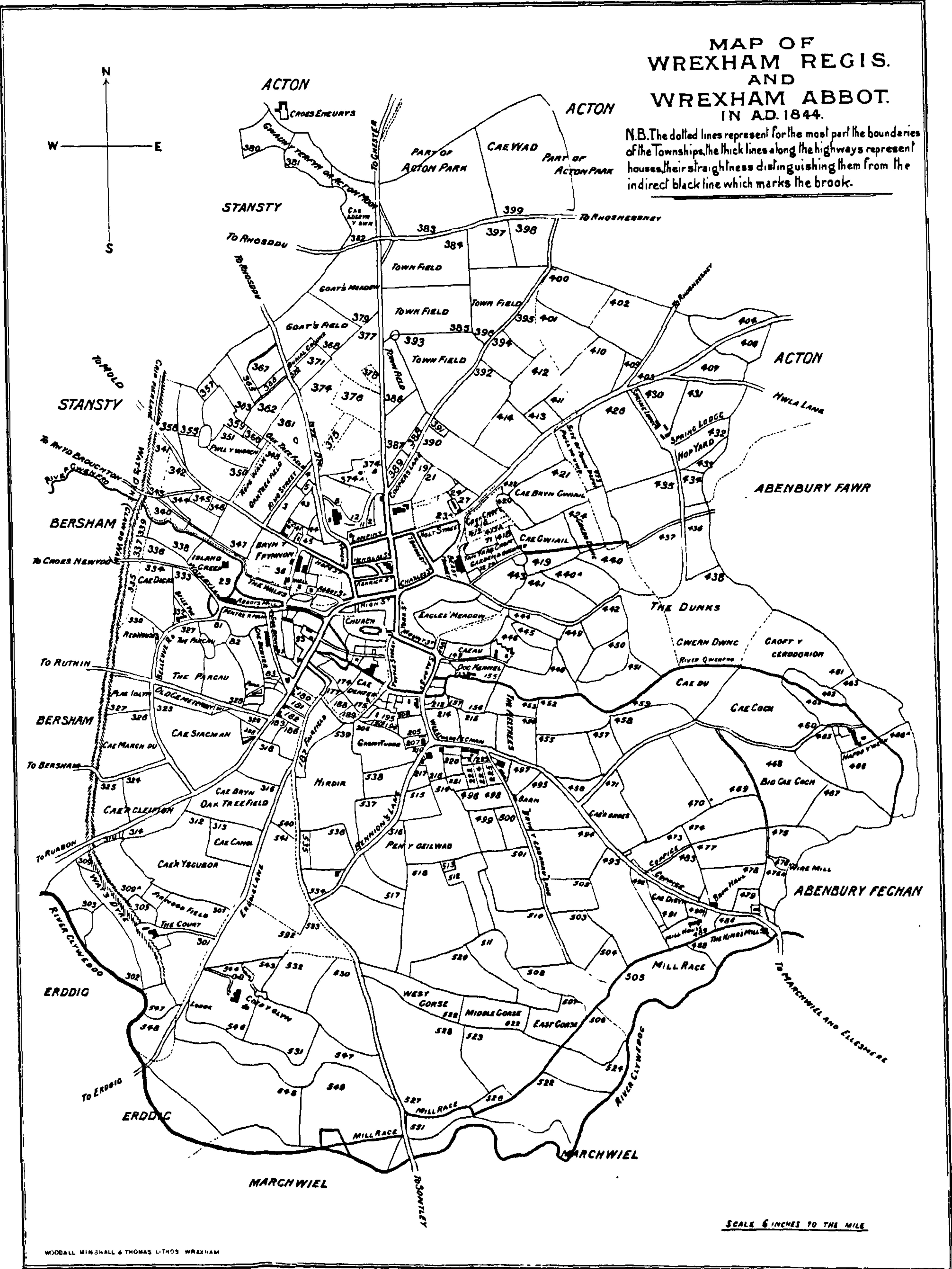
Source: Palmer, A.N. (1903) History of the Thirteen Country Townships of the Old Parish of Wrexham, and of the Townships of Burras Riffri, Erlas, and Erddig.

Figure 3.7



Source: Palmer, A.N. (1893) History of the Town of Wrexham, its Houses, Streets, Fields and Old Families.

Figure 3.7

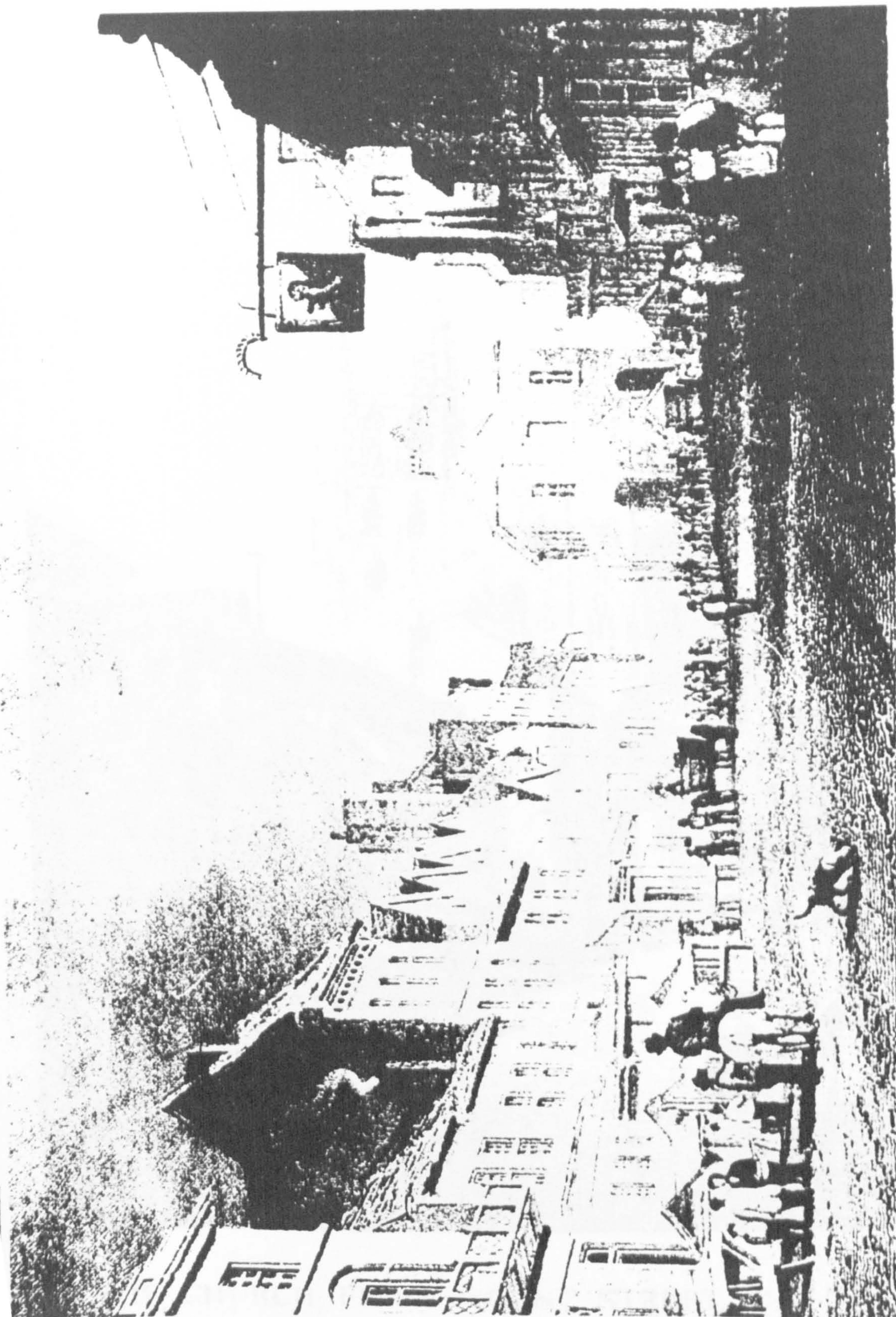


Source: Palmer, A.N. (1893) History of the Town of Wrexham, its Houses, Streets, Fields and Old Families.

At fair times however, the town population was greatly increased by the large influx of both chapmen and visitors. There were a large number of relatively small lodging houses in Wrexham which served to accommodate this itinerant population but the town became severely congested and overcrowded at the times of the fairs.

Already, by the early years of the nineteenth-century, Wrexham had grown into a commercial town as evidenced by the appearance of such institutions as banks and friendly societies. Physically at the core of the town, High Street (Figure 3.8) remained at the centre of the commercial district throughout the whole of the period, while the church of St. Giles continued to dominate the town's landscape (Figure 3.9). However, the commercial development of the town was inevitably accompanied by a reduction in governmental control and standards of behaviour. This led to agitation from some quarters for a charter of incorporation to improve the administration of the town which had outgrown the manorial system of government. The demand was finally successful in 1857 when the town became a borough. However as early as 1848 the Wrexham Recorder newspaper accused the town of ceasing to be the "metropolis of North Wales" due to the industrial and commercial growth of the region which had converted the town from its former genteel self.⁽³⁰⁾

This commercial and industrial growth within the east Denbighshire region relied quite heavily on the



HIGH STREET, 1828

Source: Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire.

Figure 3.9



THE CHURCH FROM MOUNT STREET, c. 1830-50

Source: Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire.

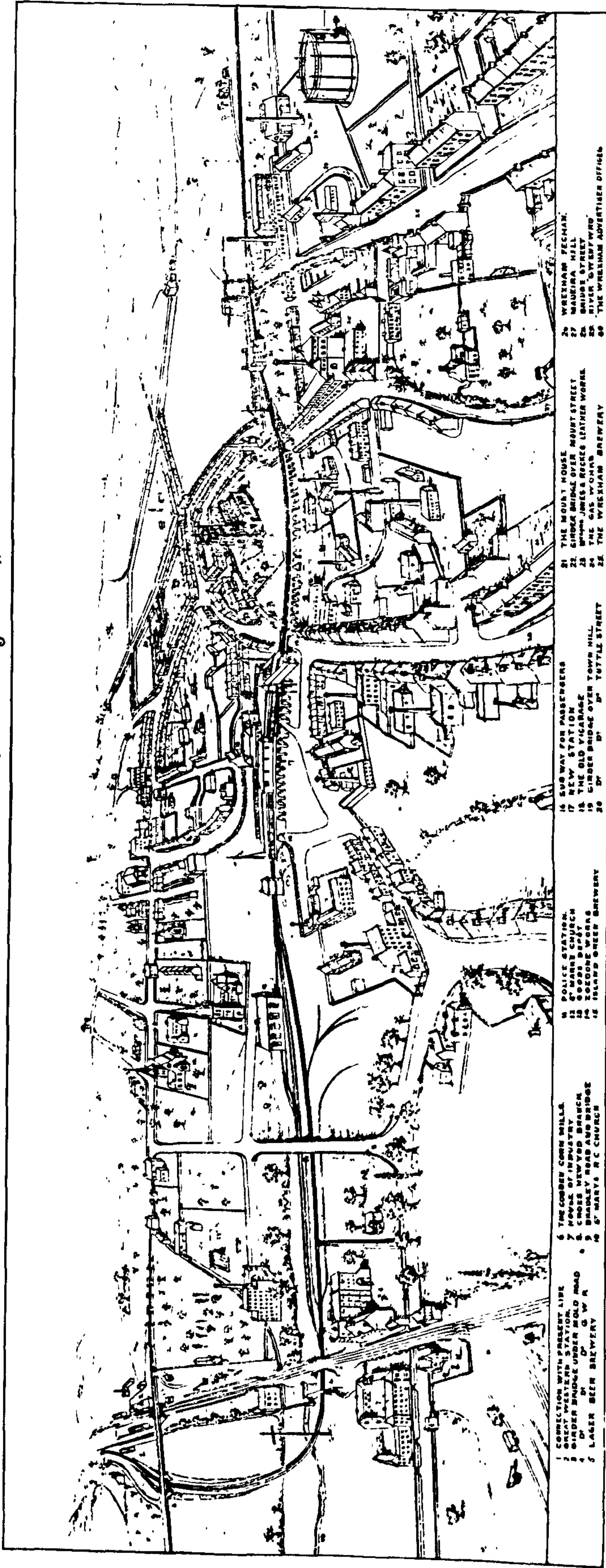
development of a good railway system to aid the easy passage of goods, and during the mid nineteenth-century lines were opened to serve Wrexham. An Act was passed in 1845 to develop the North Wales Mineral Railway but it was amalgamated with another line in the following year to form the Shrewsbury and Chester Railway which was finally opened to traffic in 1849. Later, in 1854, the line was absorbed into the Great Western Railway system. The Wrexham and Ellesmere line was completed in 1895, but before this the Wrexham, Mold and Connah's Quay Railway was extended into the town during the 1880s, when the construction of its central station resulted in the demolition of many buildings in the Brynyffynnon area (Figure 3.10).

Before incorporation, any improvements to public amenities within the town were in the hands of private individuals. In 1848, under the direction of the overseers, both High Street and Hope Street at the centre of the town were paved. The expense was met partly by public subscription and partly by individuals living in the particular street. Until 1830, street lamps were maintained by private individuals, but in that year a public body was set up to maintain the lighting. Roads were not swept or sewered and there was no general public supply of water until 1864 - before then water was still sold by the pail from door to door.

In some parts of the town, manure derived from sewerage and pig waste was stored to sell to farms and

Figure 3.10

THE NEW RAILWAY EXTENSION INTO WREXHAM — JUBILEE STATION.
Supplement to the "Wrexham Advertiser," June 25th, 1887.



Source: Clwyd County Record Office, Ruthin.

in such areas there were often health problems. Although the town avoided the widespread cholera of 1830, the disease returned in 1848 when Pentrefelin (Figure 3.11), the Beast Market, Salop Road and Penybryn were the worst affected areas. In that year there was an investigation into the health of the town and some clauses of the Public Health Act were implemented. This interest in the public sector of town life renewed the agitation for a charter but, as we have seen, it took a further nine years for the town to become a borough.

In 1857, Wrexham Abbot, Wrexham Regis and Esclusham Below (detached) were incorporated to form the borough of Wrexham, but even at this date the enduring rurality of the town was emphasised. Of the total of 1,305 acres incorporated in the borough, only 430 acres were actually built on, confirming that the town was by no means an urban entity and that rural activities were still important. Figure 3.12 shows the basic outline of the town at mid-century, including all the main streets which are labelled.⁽³¹⁾

The neighbourhood gentry, who had earlier been at the centre of government within the town, lost political power during the nineteenth-century, but even so, retained some social standing in the community. Throughout the century travellers often remarked on the wealth of aristocratic families in the neighbourhood of Wrexham which no doubt supported the growing number of tradesmen in the town.⁽³²⁾ During the second-half of

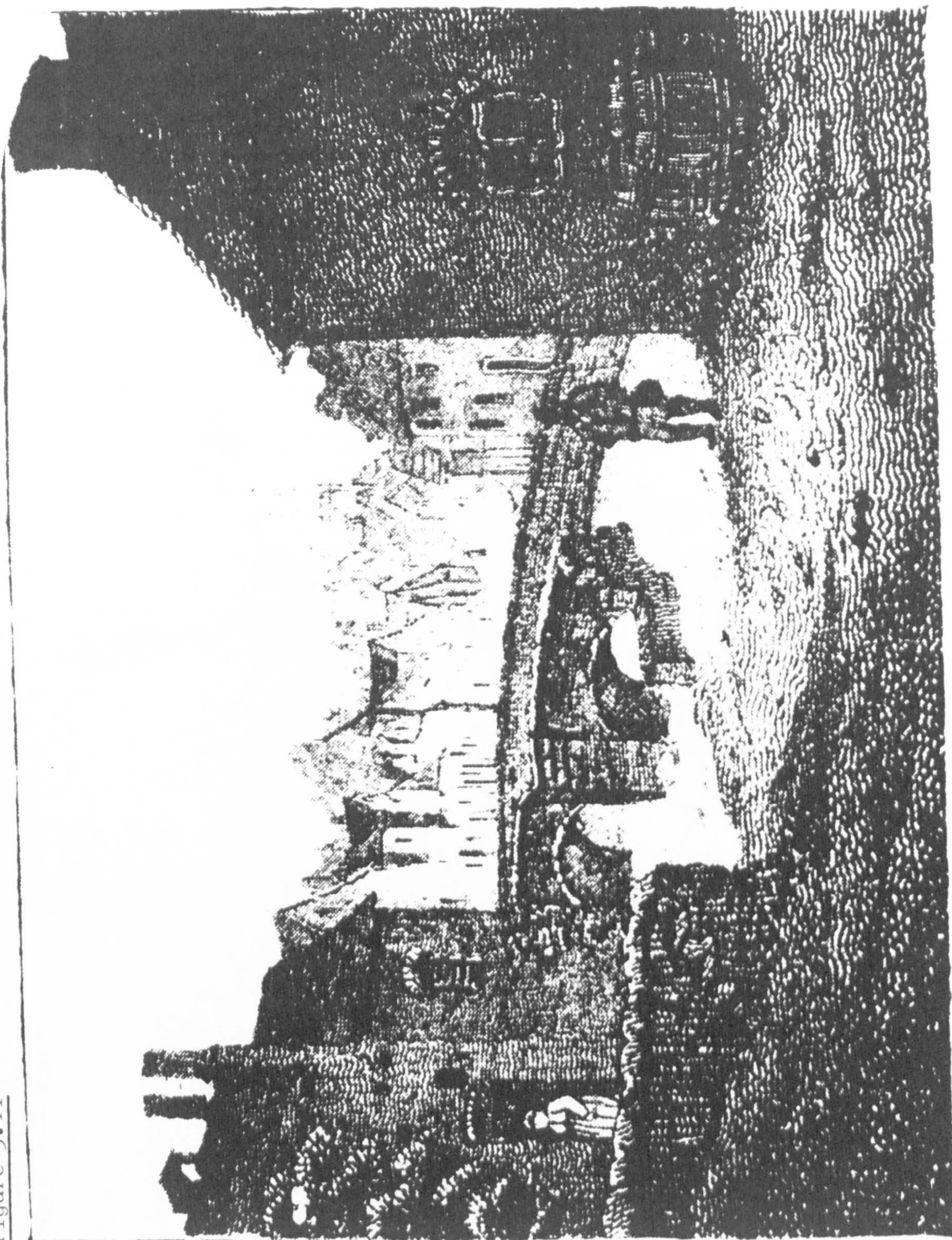
Figure 3.11



PENTRE' R FELIN, 1817

Source: Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire.

Figure 3.11

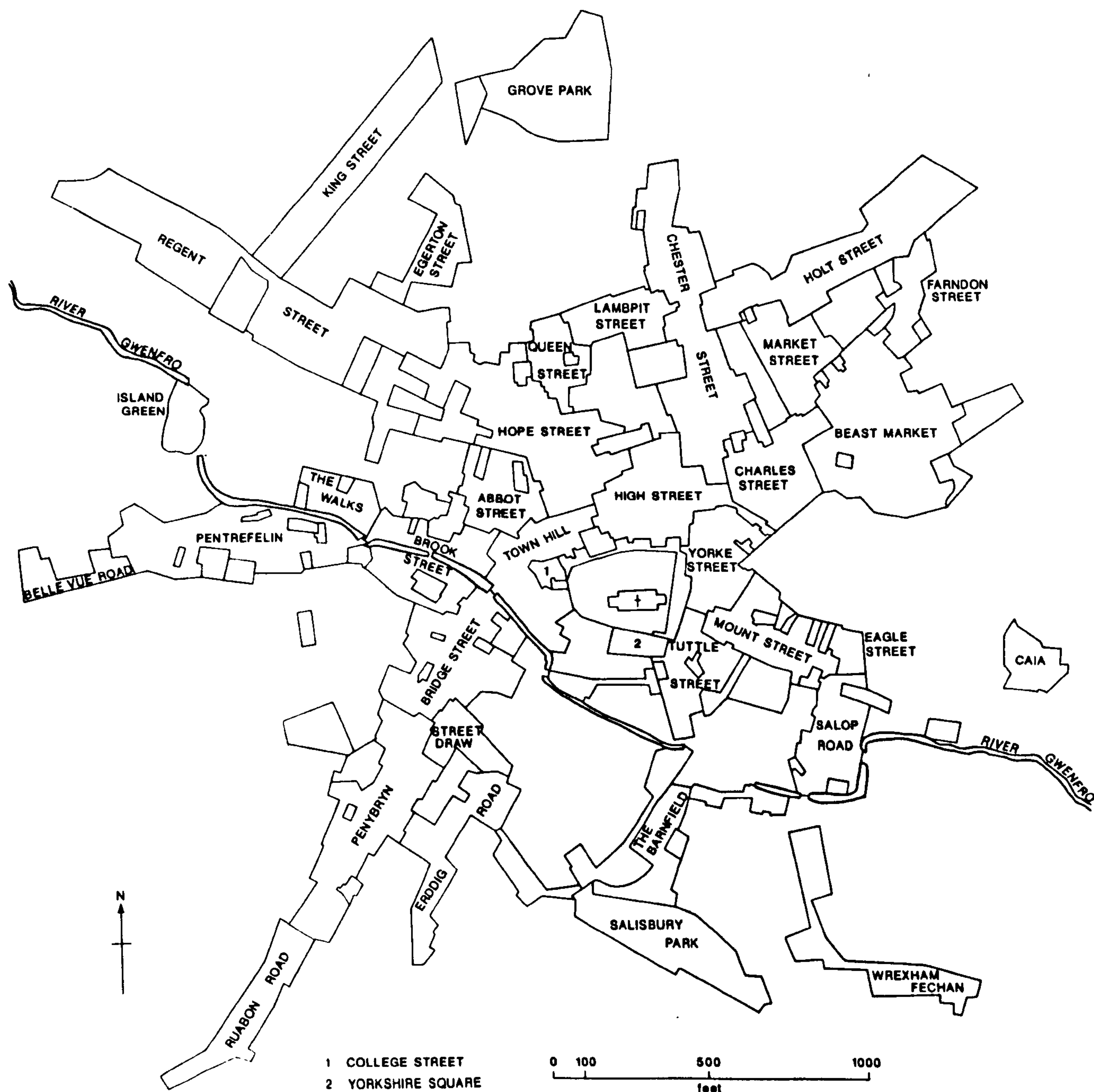


PENTRE'R FELIN, 1817

See: Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire.

Figure 3.12

A Street Plan of Wrexham, c.1850.



Based on O.S., 1st edition, 25" map of 1872/4.

the century, the dominant English population of the town occupied all the main offices of civic life, suggesting that the English were of superior status in social terms. However, towards the turn of the twentieth-century, inhabitants of Welsh descent were beginning to reestablish themselves socially and to play a fuller role in the civic life of the borough; thus suggesting that the "English" town of Wrexham was beginning to return to its original role as the centre of North-east Wales.

3.5 Notes

1. There are several good histories available for the town of Wrexham. The most useful single source remains: Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire, Hughes and Son, Wrexham. An eminent historian, A.N. Palmer (1847-1915), who lived in Wrexham from 1880-1915, wrote (amongst others) five volumes which together comprise "A History of the Town and Parish of Wrexham". These volumes are: Palmer, A.N. (1884) A History of the Ancient Tenures of Land in the Marches of North Wales, Wrexham. Palmer, A.N. (1886) The History of the Parish Church of Wrexham, Woodall, Minshall & Thomas, Wrexham. Palmer, A.N. (1888) A History of the Older Nonconformity of Wrexham and its Neighbourhood, Wrexham. Palmer, A.N. (1893)

- History of the Town of Wrexham, its Houses, Streets, Fields and Old Families, Woodall, Minshall & Thomas, Wrexham (Reprinted 1982).
- Palmer, A.N. (1903) History of the Thirteen Country Townships of the Old Parish of Wrexham, and of the Townships of Burras, Riffri, Erlas and Erddig, Hughes and Son, Wrexham.
2. Dodd, A.H. (1940) "Welsh and English in East Denbighshire: A Historical Retrospect", Transactions of the Honourable Society of Cymmrodorion, p.34-65.
 3. There are several early forms of the name Wrexham - Wristlesham (1161); Wrettesham (1236); Wrechcessam (1295); Wrightlesham (1317). Later medieval forms include Wryxham and Wrixham. Two other variations may be found in ecclesiastical documents of the thirteenth-century: Gwrexam (1254) and Gwregsam (1291).
 4. Palmer, A.N. (1893) op.cit.
 5. These lands were subsequently transferred to lay ownership following the dissolution of the Abbey in 1536.
 6. Pratt, D. (1964) "The Medieval Water Mills of Wrexham", Transactions of the Denbighshire Historical Society, Vol.13, p.22-37.
 7. Palmer, A.N. (1886) op.cit.
 8. Pratt, D. (1966) "Wrexham's Medieval Market", Transactions of the Denbighshire Historical Society, Vol.15, p.8-14.

9. The markets and fairs were only properly regulated after the town was incorporated in 1857.
10. Dodd, A.H. (1940) op.cit.
11. Williams, W.A. (1983) Old Wrexham, A Collection of Pictures, Bridge Books, Wrexham. Foreword, unnumbered.
12. Lerry, G.G. (1966) "The Street Names of Wrexham", Transactions of the Denbighshire Historical Society, Vol.15, p.169-185.
13. Hughes, H.E. (1946) Eminent Men of Denbighshire. Their Contribution to the Story of Denbighshire and of Wales, The Brython Press, Liverpool.
14. To put Wrexham as a town within the context of Wales as a whole, see: Carter, H. (1976) "The Growth and Decline of Welsh Towns", In Moore, D. (Ed.) Wales in the Eighteenth-century, Davies, Swansea, p.47.
15. Dodd, A.H. (Ed.), (1957) op.cit. p.84.
16. For a detailed discussion of the industrial development of Wrexham (and Denbighshire), see the following series of articles: Lerry, G.G. (1957 etc) "The Industries of Denbighshire from Tudor Times to the Present Day", Transactions of the Denbighshire Historical Society, Vols.6 (1957), 7 (1958), 8 (1959) and 9 (1960).
17. Dodd, A.H. (Ed.), (1957) op.cit. p.92.
18. Palmer, A.N. (1903) op.cit.
19. Aspects of the social life in Wrexham are illuminated in the following: Pritchard, T.W. (1978) "Sir Watkin Williams Wynn, Fourth Baronet

- (1749-1789)", Transactions of the Denbighshire Historical Society, Vol.27, p.5-48.
20. Pritchard, R.T. (1963) "Denbighshire Roads and Turnpike Trusts", Transactions of the Denbighshire Historical Society, Vol.12, p.86-109.
 21. Dodd, A.H. (1933) The Industrial Revolution in North Wales, University of Wales Press, Cardiff (2nd Edition, 1951).
 22. Palmer, A.N. (1899) John Wilkinson and the Old Bersham Iron Works, Printed for the author, Wrexham (Reprinted from the Transactions of the Honourable Society of Cymmrodorion).
 23. Morgan, D.T. (1927) Industrial and Social Conditions in the Wrexham Coalfield (1800-1860), Unpublished M.A. Thesis, University of Liverpool (School of Social Studies).
 24. To put Wrexham in a wider context see the following: Pryce, W.T.R. (1971) The Social and Economic Structure of Northeast Wales, 1750-1890, Unpublished Ph.D. Thesis, C.N.A.A. (Lanchester Polytechnic, Coventry). Carter, H. (1957) "The Growth of Industry, 1750-1850", in Bowen, E.G. (Ed.) Wales, A Physical, Historical and Regional Geography, Methuen, London, p.204.
 25. Wrexham Advertiser, August 1850.
 26. In addition to the general histories of Wrexham already cited, interesting details of the town during the nineteenth-century are contained in the following: Jones, J. (1859) Wrexham and its

- Neighbourhood, being A History of the Town and Guide to the Principal Objects of Interest Within a Circuit of Ten or Eleven Miles, Railton Potter, Wrexham and Whittaker, London. Jones, J. (1883) Wrexham and Thereabout, Eighty Years Ago, (A lecture delivered in the Baptist Chapel, Wrexham on the 29th September, 1882), Wrexham.
27. Barnard, A. (1889) Noted Breweries of Great Britain and Ireland, includes Messrs. F.W. Soames and Co; "The Brewery, Wrexham, North Wales".
 28. Dodd, A.H. (Ed.), (1957) op.cit. p.251.
 29. Dodd, A.H. (Ed.), (1957) op.cit. p.95.
 30. To place Wrexham within the context of the other towns in North-east Wales see the following:
Carter, H. (1956) "The Urban Hierarchy and Historical Geography: A Consideration with Reference to North-east Wales", Geographical Studies, Vol.3, p.85-101. Also reprinted in:
Baker, A.R.H.; Hamshire, J.D. and Langton, J. (Eds.), (1970) Geographical Interpretations of Historical Sources. Readings in Historical Geography, David and Charles, p.269-287.
 31. Lerry, G.G. (1966) op.cit.
 32. Details of life in nineteenth-century Wrexham are given in: Davies, D.L. (1977) "Sir William Lloyd of Bryn Estyn in Denbighshire", Transactions of the Denbighshire Historical Society, Vol.26, p.6-48.

CHAPTER 4

WREXHAM IN 1841

4.1 Introduction

In this and the following chapters we turn our attention to the results which were achieved from this investigation of the town throughout the middle decades of the nineteenth-century. As has already been stated, the basic analyses for the four census years of 1841, 1851, 1861 and 1871 involved the use of the Principal Components procedure on data aggregated at the level of the street. The census of 1841 produced the earliest data of genuine use to the historical or social geographer⁽¹⁾ and the results from this analysis will be examined in this chapter. Similar procedures were undertaken on the data sets for all four years to maintain comparability between the dates, although as Wrexham grew over time, additional streets were incorporated into the analysis. The specific procedures adopted have already been detailed elsewhere (Chapter 2). The results for each year will also be presented in a similar way, again to facilitate comparisons through time.

The surviving local copy of the 1841 census enumerated a total of 4,875 people for the town of Wrexham.⁽²⁾ This total is somewhat less than that

given by Palmer in his history of the town published in 1893.⁽³⁾ Palmer gave a total population for 1841 of 5,854 - comprising 3,745 in Wrexham Regis, 2,073 in Wrexham Abbot and 36 in Esclusham Below. This deficit of nearly one thousand people implied that the surviving manuscript census was not complete and this was confirmed when the streets themselves were examined. It became clear that a region in the south-west of the town, across the river Gwenfro, was not included in the manuscript census for 1841 although this area was populated according to the 1840 electoral register.⁽⁴⁾ Obviously such streets as Bridge Street and Penybryn were enumerated at the time of the census but the details have subsequently been lost and no record survives. For this reason, the south-western portion of Wrexham does not appear on any of the maps for 1841 and the analysis and discussion which follow concentrate only on the remainder of the town.

For the year of 1841 fifty-one street units were isolated (Figure 4.1), and for each street thirty variables extracted from the census returns were included in the analysis. These variables have been detailed elsewhere (Chapter 2, Figure 2.7). A Principal Components solution was achieved for this data set with no resort to the rotation of axes, whether orthogonal or oblique, because of the lack of any theoretical justification.⁽⁵⁾ In all, the first nine components had eigenvalues greater than 1.0, together accounting for 81.1% of the total variance

Figure 4.1

1841: Street Units Identified From The Census

Mount Street	Vicarage Hill
Salop Road	Abbot Street
Tuttle Street	Town Hill
Yorke Street	Church Street
Hafod y Wern	Hope Street
King's Mills	Well Street
Wrexham Fechan	The Walks
Eagle Street	Island Green
Dog Kennel Hill	College Street
Caia	Pentrefelin
Willow Hill	Isle of Man
Madeira Hill	Gummow's Court, Brook Street
Coed y Glynn	Old Yorkshire Hall
Sontley Hill	Church Steps
Charles Street	Bowen's Court, Beast Market
Cutler's Entry, Charles Street	Mason's Entry, Beast Market
Beast Market	Owen's Court, Beast Market
Seven Bridge Lane	Price's Court, Holt Street
High Street	Welsh Entry, Queen Street
Henblas Street	Ysputta
Chester Street	Temple Row
Lampit Street	
Queen Street	
Holt Street	
Groves School	
Groves Lodge	
King Street	
Ney	
Church Yard	
Brook Street	

within the data set. However, attention was concentrated on the first four components only (which accounted for 55.7% of the total variance) because of the mixed nature of the less important components which made labelling and interpretation extremely hazardous.⁽⁶⁾

The resulting component scores for each of the first four components were grouped into sextiles (ranging from the highest to lowest score) in order to simplify the spatial presentation of the results and to allow the underlying patterns to emerge more clearly. The results are presented in Figures 4.2, 4.5, 4.6 and 4.11, and these results for 1841 can be directly compared with the patterns presented for the subsequent census years. To identify sub-areas it may be helpful to refer to the street outline for Wrexham given in Chapter 3, Figure 3.12. The results for 1841 are detailed below when individual components are examined to aid the interpretation of the patterns shown.

4.2 Component One: Socioeconomic Status

Component one, the most important component to emerge in Principal Components analysis, accounted for 24.5% of the total variance and had an eigenvalue of 7.33517. With a view to the interpretation and labelling of any component, the eigenloadings of individual variables on the component can be examined.

The highest positive eigenloadings on component one were:

Eigenloading	Variable Number and Title. ⁽⁷⁾	
0.86365	V.27	% of total adult population (T.A.P.) engaged in Domestic Service.
0.83046	V.6	% of Household Heads in Socio-economic Groups (S.E.Gs) 1 and 2.
0.75288	V.9	% of T.A.P. in S.E.G.s 1 and 2.
0.71086	V.11	% of T.A.P. in S.E.G.s 4 and 5.
0.65245	V.26	% of T.A.P. engaged in Professional and Public Service.
0.63944	V.2	% of population born in England and Wales outside Denbighshire.

At first glance these eigenloadings appear to be contradictory. Variables generally representing low status sections of the population are included along with those indicating the elite sections of society, although it is clear that in general terms the component may be labelled as one representing socioeconomic status.

However, it is suggested that areas or streets with high component scores on component one are inhabited by households of high socioeconomic status who in turn engage members of low status groups to live in and work as domestic servants. Such areas, in which both sections of society are represented, generally produce results of this ambiguous nature, although there is a definite difference in function and status between those who are employed and those doing the employing.

From a closer examination of the eigenloadings this situation becomes clear. Obviously such areas which emerge are high status streets in that both variables relating to individuals classified in socioeconomic groups 1 and 2 (V.6 and V.9) are represented, although the highest loading relates to the percentage of the total adult population engaged in domestic service (V.27). The presence of servants is strengthened by the inclusion of variable 11 which refers to the percentage of the total adult population classed in socioeconomic groups 4 and 5 which includes domestic service occupations. On the other hand, variable 13 which relates to the percentage of household heads classed in this low status group, has a lower eigenloading (0.48447), suggesting that it is less important in this component and that low status families or households are less likely in these areas. Only individuals of low status, presumably living in households with higher status heads, are likely to be found.

The remaining two variables with high eigenloadings provide additional insight into the nature of component one. Within the group of occupations classed in socioeconomic groups 1 and 2, those of a public or professional character (V.26) were most important in this instance, and at the same time, individuals were not usually of local origin but were born in parts of England and Wales outside of Denbighshire (V.2). A more detailed breakdown of

birthplace data is not possible for 1841 given the information which was collected in the census.

An examination of the highest eigenloadings aids the labelling of any component and at the same time, aids the interpretation of the spatial patterns which emerge when component scores are mapped. In a similar fashion, the nature of streets with low component scores may sometimes be better interpreted by reference to those variables with the lowest (highest negative) eigenloadings:

-0.76961	V.10	% of T.A.P. in S.E.G. 3.
-0.73943	V.24	% of T.A.P. engaged in Manufacturing.
-0.61638	V.20	Fertility ratio.
-0.59646	V.1	% of population born in Denbighshire.
-0.58933	V.15	% of population aged 0-4 years.(7)

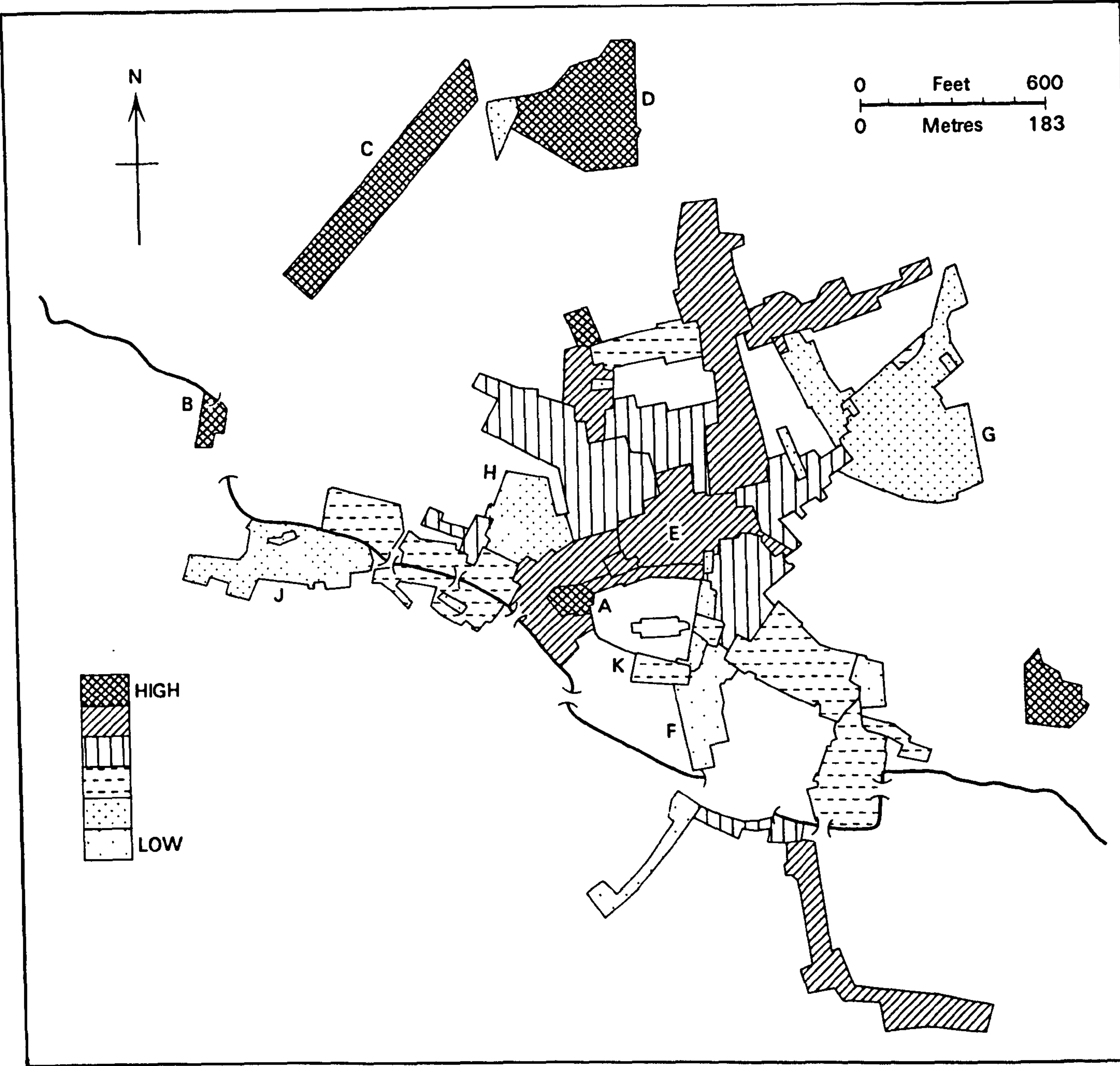
These variables indicate that streets with low component scores on this first component were essentially inhabited by working-class populations with young families, while individuals were mainly born locally within the county. Socioeconomic group 3 tended to be rather large because the classification system adopted was essentially that used by Armstrong⁽⁸⁾ with only slight modification, so that it included many of the usual trades of the period as well as commercial activities. At the same time, these eigenloadings reiterate that component one may be termed a 'socioeconomic component'.

The component scores associated with component one have been mapped to examine the inherent spatial patterns and the results are presented in Figure 4.2. The scores were grouped into sextiles around the median prior to mapping to facilitate the exercise. In general terms, streets with high component scores on component one (sextiles 1 and 2) occupy locations on the outskirts of the town or in the region immediately to the north of the parish church of St. Giles. Streets with low component scores, representing working-class areas (particularly sextile 6), are located to the south of the church and throughout the town. Those streets with intermediate component scores (sextiles 4 and 5) occupy locations along the river Gwenfro and in the area of the cattle market, locations where one might expect lower status households to congregate.

All but one of the streets included in sextile 1 (those with the highest component scores), occupy peripheral locations; the exception being College Street (marked A on Figure 4.2) located at the western end of the churchyard. Indeed it may be the presence of the parish church, for long an important building within Wrexham, which accounts for this high status area here, particularly since the adjoining streets of Town Hill, Temple Row, Church Street and High Street have also all maintained their relatively superior status. During earlier periods, the wealthier members of society were often attracted to areas near such

Figure 4.2

1841 : Component One : Socioeconomic Status.



- | | |
|------------------|----------------------|
| A College Street | F Tuttle Street |
| B Island Green | G Beast Market |
| C King Street | H Abbot Street |
| D Grove School | J Pentrefelin |
| E High Street | K Old Yorkshire Hall |

religious centres as churches and this higher status area, along the northern edge of the churchyard, could be an enduring remnant of just such a situation. The connection between the church and the adjoining streets is further enhanced by the probable derivation of the name of College Street itself. There was no college in Wrexham until relatively late in the century and it is believed that the street name is derived from the collegiate nature of the church rather than from the presence of an educational establishment.⁽⁹⁾

Another high status area in 1841 was Island Green (marked B on Figure 4.2), a pleasant mansion and estate on the river, to the west of the town. At this time the estate still maintained its salubrious air but it was soon to change in character, following the death of its owner, a prosperous lawyer named John Bennion. Then the Island Green estate was taken over by a brewery and it subsequently declined in terms of status. Some indication of its former condition may be gleaned from the sale notice of the property which appeared in The Wrexham Advertiser (newspaper) in December 1850:

"All that capital mansion House called Island Green...with the gardens, yards and appurtenances thereunto belonging together with a piece of meadow land in front containing about 5 acres...The House which has been recently built at a considerable expense..."⁽¹⁰⁾

Near Island Green was another high status area, King Street (marked C on Figure 4.2), which was the first residential street to be specially laid out in Wrexham in 1836. The development of this street represents the first movement of wealthy residents away from the relative congestion of the town centre. However, in later years this residential street was to decline in status as development occurred elsewhere with the increased movement of the population to the periphery. Even so the wealth of King Street is already obvious in 1841 from the original census data. Domestic servants formed nearly one third (30.1%) of the total adult population within the street, as compared with only 11.8% engaged in Public and Professional Services (Figure 4.3). However, at the same time, 33.3% of the adult population returned themselves as being of "Independent" means which suggests that many were elderly or of retirement age, but wealthy enough to support themselves comfortably.

Another high status area, located in the same northern sector of the town as King Street, was Grove School (marked D on Figure 4.2) formerly known as Grove Park. By 1841 this large mansion house had become a select, private boarding school, a typical change of function for such residences. At this date, the school was inhabited by the schoolmaster and his wife, seven servants and one independent man as well as forty-nine boy pupils aged between the ages of eight and fifteen years. Obviously this was a very

Figure 4.3

1841: Selected Industrial Groups

% of total adult population¹ in each street classed in selected industrial groups:

Street:	Dealing	Public & Professional	Domestic Service	Independent
Mount Street	9.3	3.3	9.3	4.2
Salop Road	1.7	3.4	5.9	2.5
Tuttle Street	5.5	-	5.5	3.9
Yorke Street	9.2	3.1	15.3	7.6
Hafod y Wern	-	-	42.9	-
King's Mills	-	-	13.0	8.7
Wrexham Fechan	-	12.5	31.3	6.3
Eagle Street	-	-	-	-
Dog Kennel Hill	2.9	-	2.9	-
Caia	-	14.3	42.9	-
Willow Hill	-	-	8.7	26.1
Madeira Hill	-	-	4.6	3.1
Coed y Glynn	-	-	57.1	42.9
Sontley Hill	-	-	11.1	-
Charles Street	20.2	-	13.5	10.1
Cutler's Entry	2.9	2.9	5.9	2.9
Beast Market	5.8	0.8	5.8	5.0
Seven Bridge Lane	4.3	2.2	4.3	7.5
High Street	20.9	6.6	30.1	6.1
Henblas Street	13.8	3.4	10.3	10.3
Chester Street	4.6	4.0	19.5	8.6
Lampit Street	4.8	1.6	3.2	8.9
Queen Street	2.3	6.8	11.4	27.3
Holt Street	4.5	9.1	14.8	4.5
Groves School	-	20.0	40.0	6.7
Groves Lodge	33.3	-	-	-
King Street	1.1	11.8	30.1	33.3
Ney	20.0	-	-	-
Church Yard	7.4	-	3.7	-
Brook Street	6.3	1.7	4.0	8.0
Vicarage Hill	4.9	2.4	12.2	7.3
Abbot Street	11.9	1.0	11.9	2.0
Town Hill	17.6	5.9	22.1	1.5
Church Street	20.0	-	40.0	-
Hope Street	15.0	3.4	21.4	5.3
Well Street	3.2	6.5	6.5	6.5
The Walks	9.7	1.4	6.9	2.8
Island Green	-	20.0	40.0	-
College Street	14.3	-	28.6	28.6
Pentrefelin	5.8	0.4	7.1	4.6
Isle of Man	-	-	2.0	-
Gummow's Court	-	-	-	-
Old Yorkshire Hall	16.7	-	2.1	-
Church Steps	6.3	-	6.3	-
Bowen's Court	20.0	-	-	-
Mason's Entry	-	-	-	12.5
Owen's Court	-	-	-	-
Price's Court	-	-	10.0	20.0
Welsh Entry	15.0	-	-	-
Ysputta	-	15.4	53.8	7.7
Temple Row	10.0	-	30.0	-

Source: 1841 Census.

Note 1 : Total Adult Population - population aged over 14 years.

specialised type of household, although it was certainly of high status since the nominal household head was a professional man, the schoolmaster, and many servants were engaged. It could be argued that such a unique household should be omitted from any investigation of the overall social structure of Wrexham, but Grove School did form part of the town and it constituted an important indicator of the higher status section of the town. For the sake of completeness it was therefore decided to include the school although it must be remembered that it was unique and subsequent results will emphasise this individuality.

In direct contrast to the socioeconomic status of Grove School was the adjoining Grove Lodge, the former lodge of the estate. On component one, Grove Lodge emerged as being of much lower status and examination of the original census data confirmed the working-class character of this household. The distinctive character of both Grove Lodge and Grove School was to remain a feature of the town throughout subsequent decades.

As has already been mentioned, the group of streets immediately to the north of the parish church also emerged as streets of relatively high socioeconomic status. The core area of High Street, Town Hill etc., leading into Chester Street and Holt Street all emerged in sextile 2, whilst the adjoining streets of Hope Street, Henblas Street, Charles Street

and Yorke Street are found in sextile 3. This area formed the main commercial section of Wrexham during the nineteenth-century and of these streets, High Street (marked E on Figure 4.2) had long been at the centre of commercial life within the town. It was here that stalls were concentrated at the times of markets and fairs, and here also were located the important coaching inns. The higher status of this street and the neighbouring streets suggests that in 1841 even wealthy shopowners still generally lived above their business premises. This is confirmed by reference to the electoral register for 1840; in these streets electors usually qualified with a "house and shop" rather than a "house" alone.⁽¹¹⁾ This was to remain the case for some years to come in fact and even ten years later the novelty of the "lock-up" shop was such as to warrant a mention in the local newspaper in a report of a robbery:

"Mr. Thomas Francis, grocer, keeps a shop in Hope Street, but resides in King Street. He is in the habit of locking up his shop every night; and he or his young men carry the cash to the house in King Street. On the above evening one of the young men had done so as usual and upon his way to King Street...he was attacked by three men...the cash box containing £81.3s was carried off..."⁽¹²⁾

In 1841, this whole region around the northern edge of the churchyard may be viewed as a relatively high status area of mixed commercial and residential

uses with commercial domination giving way to residential domination as one moves away from the church towards the open spaces of the surrounding countryside. Away from this area, a similar situation, in terms of socioeconomic status, existed in the former separate hamlet of Wrexham Fechan, to the south of the river Gwenfro. Because of its former independence and also its distance from the centre of the town, Wrexham Fechan was occupied by mixed uses and again commercial and residential uses competed for space.

At the other extreme, streets with low component scores (sextile 6) on component one are essentially inhabited by working-class populations, rather than persons of low socioeconomic status. As can be seen from Figure 4.2, the lowest scores are often achieved by the small courts scattered throughout the town although to the south-east of the churchyard several working-class streets are found including Tuttle Street (marked F on Figure 4.2), the adjoining Madeira Hill and Eagle Street. In later years, Tuttle Street was to become a problem area, in social terms, within the town but in 1841 it was a street of intermediate status. At this date, 62.2% of the household heads living in Tuttle Street were classified in socioeconomic group 3 as compared with 22.2% in socioeconomic groups 4 and 5 (Figure 4.4). As will be shown later, this was in complete contrast to the 'Old Yorkshire Hall' located at the northern end of Tuttle

Figure 4.4
1841: Socioeconomic Status

% of Household Heads in each street classed in Socioeconomic Groups:

Street:	1 & 2	3	4 & 5
Mount Street	11.3	62.9	21.0
Salop Road	15.2	54.5	21.3
Tuttle Street	6.7	62.2	22.2
Yorke Street	15.8	63.2	15.8
Hafod y Wern	-	100.0	-
King's Mills	-	50.0	50.0
Wrexham Fechan	50.0	-	25.0
Eagle Street	-	50.0	-
Dog Kennel Hill	-	61.5	23.1
Caia	-	100.0	-
Willow Hill	28.6	42.9	28.6
Madeira Hill	4.2	45.8	37.5
Coed y Glynn	100.0	-	-
Sontley Hill	-	33.3	66.7
Charles Street	25.0	70.8	4.2
Cutler's Entry	14.2	50.0	21.4
Beast Market	14.8	60.5	16.1
Seven Bridge Lane	20.0	48.6	25.7
High Street	3.0	90.9	3.0
Henblas Street	-	75.0	25.0
Chester Street	29.4	51.0	15.7
Lampit Street	20.5	48.7	20.5
Queen Street	30.8	69.2	-
Holt Street	30.0	46.7	20.0
Groves School	100.0	-	-
Groves Lodge	-	-	100.0
King Street	91.3	8.7	-
Ney	-	100.0	-
Church Yard	-	54.5	45.5
Brook Street	11.7	51.0	35.3
Vicarage Hill	8.3	41.7	41.6
Abbot Street	-	78.8	18.2
Town Hill	-	94.4	-
Church Street	-	100.0	-
Hope Street	22.3	62.5	11.1
Well Street	8.3	41.7	50.0
The Walks	4.3	34.8	60.8
Island Green	100.0	-	-
College Street	66.7	33.3	-
Pentrefelin	7.7	41.8	42.9
Isle of Man	-	50.0	50.0
Gummow's Court	-	100.0	-
Old Yorkshire Hall	-	22.2	61.1
Church Steps	-	33.3	16.7
Bowen's Court	-	33.3	33.3
Mason's Entry	25.0	50.0	-
Owen's Court	-	100.0	-
Price's Court	40.0	-	60.0
Welsh Entry	-	88.9	-
Ysputta	100.0	-	-
Temple Row	-	100.0	-

Source: 1841 Census.

Street which was an area of low status in 1841.

The appearance here of several courts within the town with predominantly working-class rather than lower status populations is somewhat surprising when compared with similar investigations of other towns, but there are several possible explanations. Undoubtedly the small numbers of households actually frequenting such courts in comparison with the numbers found in the average street can have an adverse effect on the statistical analysis. Some researchers have attempted to reduce any statistical interference by dividing longer streets into smaller units to reduce the variation in population size between units. However such manipulation of the data was avoided in this examination in favour of using realistic and meaningful units of analysis.

In Figure 4.2, sextiles 5 and 4 denote those areas housing the poorer sections of society within the town and, in general, these poorer streets occupy areas along the river Gwenfro, often near the large tanyards and breweries which also tended to be concentrated here. The Beast Market (marked G on Figure 4.2), where conditions were equally as bad, the adjoining Seven Bridge Lane (later, Market Street) and Abbot Street (marked H on Figure 4.2), where historically public houses and inns had become concentrated, were the main low status areas away from the river.

The slight supremacy of streets in sextile 5 over those in sextile 4, in social terms, may be illustrated

with reference to Pentrefelin (marked J on Figure 4.2) and the Old Yorkshire Hall (marked K on Figure 4.2). In Pentrefelin 41.8% of the household heads were classed in socioeconomic group 3 as compared with 42.9% in socioeconomic groups 4 and 5, which suggests that Pentrefelin might be termed a lower working-class community (Figure 4.4). On the other hand, nearly two-thirds of the household heads in Old Yorkshire Hall (61.1%) were classed in socioeconomic groups 4 and 5 compared with only 22.2% in socioeconomic group 3. Old Yorkshire Hall later became known as Yorkshire Square, a name which became synonymous with deprivation and slums within Wrexham.

From this examination of component one, it can be seen that Figure 4.2 broadly shows the basic socio-spatial layout of the town in 1841. In general terms the region immediately to the north of the churchyard was of much higher socioeconomic status than the region to the west, straddling the river and the area to the south-east, towards the same river. Clearly the river acted as a deterrent to the social leaders of the town, probably due to the attraction that the river held for brewing and tanning concerns, industries which adversely affected neighbouring environments. Thus riverside locations in Wrexham seem invariably to have been left for the poorer sections of the population.

4.3 Component Two: Lifecycle

In general, in Principal Components Analysis, subsequent components (after component one) never account for as much of the total variance within the data set as the first and therefore most important component, and the amount of variance accounted for declines with each subsequent component in turn. In this analysis of Wrexham in 1841, component two accounted for 13.0% of the total variance, as compared with 24.5% which was accounted for by component one.

Again the eigenloadings of individual variables on component two aided its labelling and interpretation. The highest positive eigenloadings were:

0.85031	V.16	% of population aged 0-14 years.
0.59430	V.13	Mean household size.
0.58784	V.15	% of population aged 0-4 years.
0.54271	V.20	Fertility ratio. (7)

These variable eigenloadings suggested that this may be termed a lifecycle component and this was confirmed by looking at the lowest (highest negative) eigenloadings:

-0.62708	V.18	% of population aged 60+ years.
-0.61116	V.25	% of T.A.P. engaged in Dealing.
-0.56797	V.14	Mean age of Household Head.
-0.52233	V.17	% of population aged 15-59 years.(7)

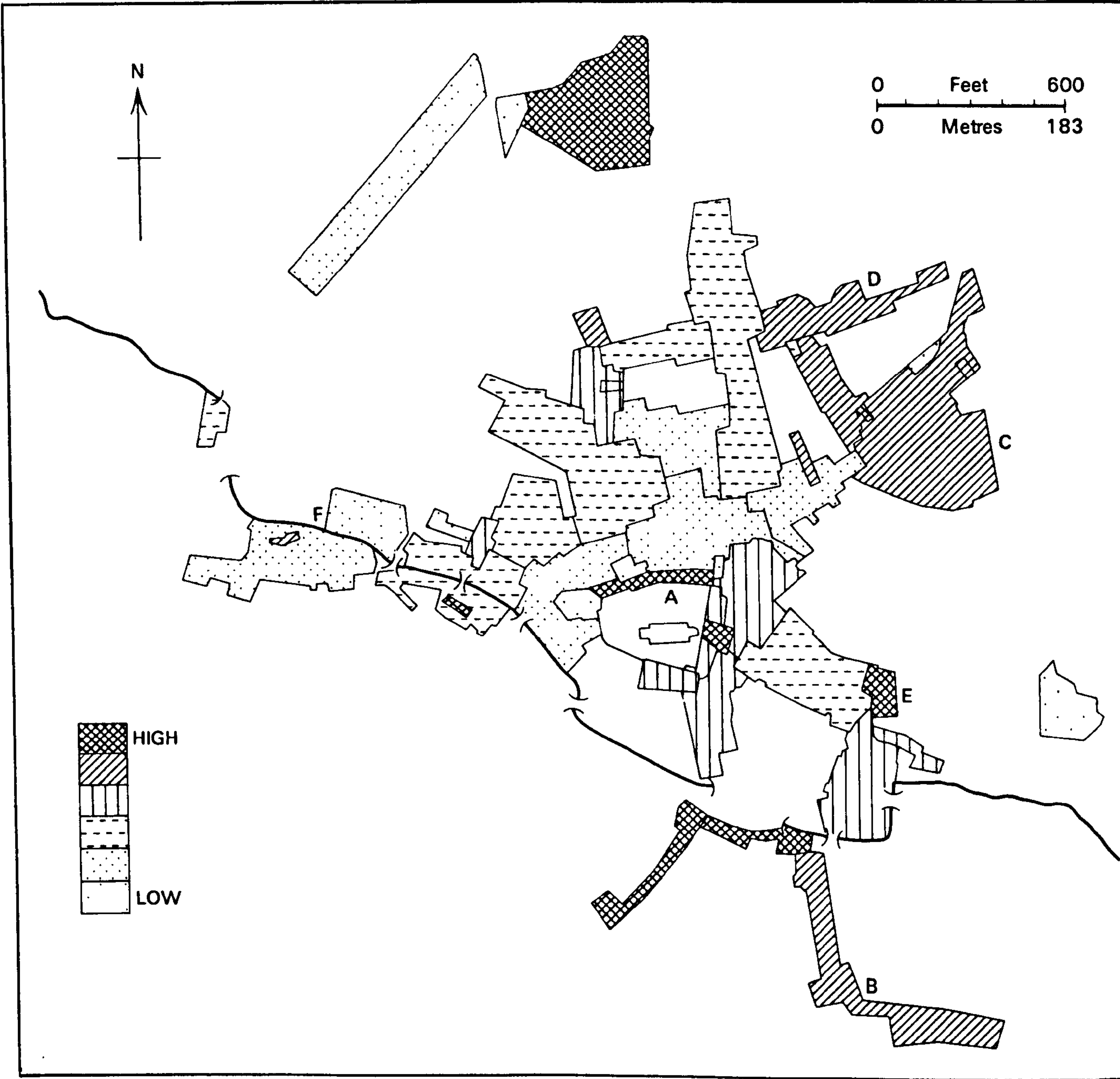
Clearly component two is a lifecycle component and streets with high component scores are likely to be dominated by young families engaged in the phases of child rearing, often resulting in large household units. Streets with low component scores on component two are dominated by an older population, particularly engaged in commercial or trading activities.

Figure 4.5 reveals the spatial pattern of the component scores associated with component two. Again the results have been grouped into sextiles around the median prior to mapping to facilitate that exercise and to improve the clarity of the results.⁽¹³⁾ As can be seen from Figure 4.5, the highest component scores are found particularly in the eastern and southern regions of the town, although in general, both high and low scores are widely dispersed resulting in a very confused pattern.

The presence of a large number of young boarders ensures that the unique Grove School returns a high component score and forms part of sextile 1. High scores are also recorded by Temple Row (marked A on Figure 4.5) and the Church Steps, both of which adjoin the churchyard. Yet on component one (see Figure 4.2) these two areas differed markedly in terms of component scores, the former enjoying a high socioeconomic status whilst the Church Steps was inhabited by a population of much lower status.

Figure 4.5

1841 : Component Two : Lifecycle.



A Temple Row
B Wrexham Fechan
C Beast Market

D Holt Road
E Eagle Street
F Pentrefelin / The Walks

Across the river Gwenfro, to the south of the town, the former separate community of Wrexham Fechan (marked B on Figure 4.5) and the adjoining streets of Willow Hill and Madeira Hill all display high scores on this second component, suggesting that youthful populations were present here. Again on the first component (Figure 4.2) all three showed quite different scores. Wrexham Fechan represents something of an anomaly within the town having long been a separate community, while areas of lower status, such as Willow Hill and Madeira Hill often consist of large families with numerous young children.

The other sizeable group of streets with high scores on this lifecycle component are located on the eastern fringe of the town, in the area of the Beast Market. The Beast Market (marked C on Figure 4.5), whose traditional function discouraged occupation by higher socioeconomic groups in particular, was an area populated by relatively poor people, although Holt Road (marked D on Figure 4.5) was somewhat higher in status and formed one of the main arteries or routeways into the town. Again, however, it is clear that working-class or lower status streets are more likely to have child dominated households than those streets occupied by higher status families. This notion is supported by several courts throughout the town which display both working-class and youthful populations, as does Eagle Street (marked E on Figure 4.5).

At the other extreme, the lowest scores on component two are found in the main commercial streets

within the town and in those areas of obvious high status. A very low eigenloading was achieved on this lifecycle component by variable 25 which referred to the percentage of the total adult population in any street who were engaged in dealing (see Figure 2.7). Thus some of the main commercial streets of Wrexham, located to the north of the churchyard, including High Street, Town Hill, Charles Street and Henblas Street, all show low scores in Figure 4.5. Examination of the original census data reveals the importance of dealing in these streets. In High Street, 20.9% of the total adult population (those aged 15 or more years) were engaged in dealing, a proportion only exceeded by the 30.1% engaged in domestic service (Figure 4.3). This dependence on domestic servants was also found in Town Hill where 22.1% were engaged in domestic occupations as compared with 17.6% employed in dealing. In both Henblas Street and Charles Street the dominance of dealing as an occupation was eroded by the enhanced importance of manufacturing, but even so, dealing employed 13.8% and 20.2% respectively of the adult population in each.

Low scores on component two are also displayed by streets adjacent to the churchyard which recorded high scores on component one, including Church Street and College Street. Even here however, the lower status area known as the Ney (Nef) also recorded a low score on component two and in this street some 20% of the adult population were employed in dealing occupations.

King Street, the high status residential street to the north-west of the town, is another street with a low score in Figure 4.5. Such a score is to be expected in this type of residential area where householders tended to be elderly and middle-aged with small families.

One interesting feature of Figure 4.5 is the area of low scores comprising Pentrefelin (marked F on Figure 4.5), The Walks and the nearby Well Street, to the west of the town and bordering the river Gwenfro. In Figure 4.2 this region was one of obvious low socioeconomic status and yet the large households, including large numbers of children, usually associated with such areas do not emerge on this lifecycle component. Only low proportions of the population were engaged in dealing in these areas, while the mean size of households was relatively small; ranging from 3.4 to 4.6 persons per household. Thus the low scores on component two possibly reflect the relatively established nature of the population in this area, in which only low proportions of children were found, in contrast to a region centered on the Beast Market (marked C on Figure 4.5) where a population of similar socioeconomic status included large proportions of children.

4.4 Component Three: Socioeconomic/Ethnic Status

The third component to emerge from this analysis accounted for only 9.8% of the total variance within the data set. From the eigenloadings it would be realistic to label this component as being concerned essentially with socioeconomic status, although there is also an ethnic influence. The highest positive eigenloadings were:

0.75374	V.8	% of Household Heads in S.E.G.s 4 and 5.
0.55527	V.29	% of T.A.P. engaged as Labourers.
0.42480	V.4	% of population born in Ireland. (7)

Although the Irish-born variable (V.4) played an important role in the composition of component three, the numbers of people of Irish birth living in Wrexham in 1841 were still relatively small. This census predated the main period of Irish migration to mainland Britain and it was only later that distinctive "Irish areas" of any size appeared in many cities and towns. From the eigenloadings it can be seen that streets which record high scores on component three are dominated by low status households.

At the other extreme, the lowest eigenloadings concentrate on variables representing people of intermediate status:

-0.77340	V.7	% of Household Heads in S.E.G. 3.
-0.46525	V.10	% of T.A.P. in S.E.G. 3.
-0.42182	V.17	% of population aged 15-59 years.(7)

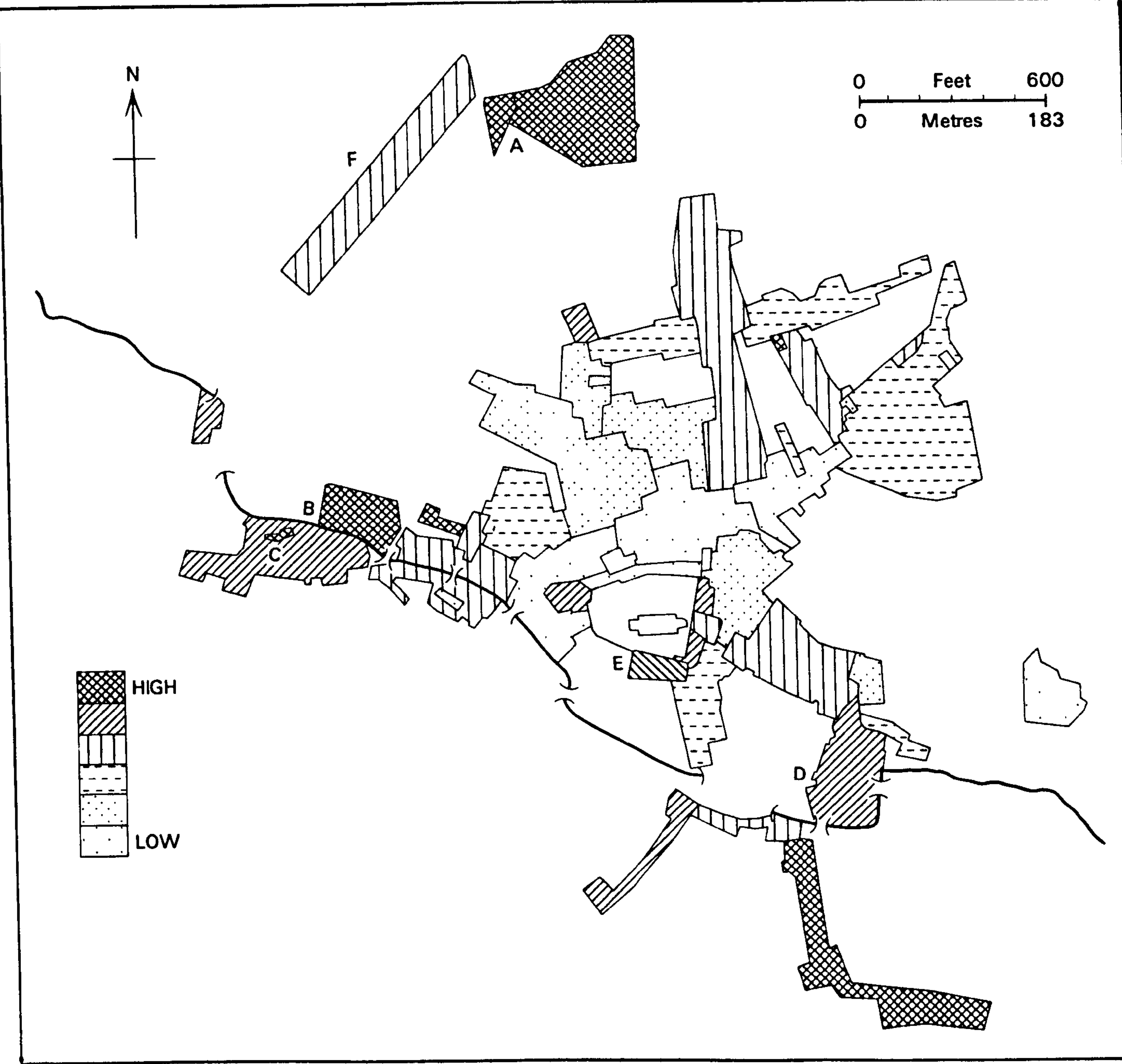
Thus those streets with low scores on component three are essentially working-class areas.

The sociospatial patterning associated with the component scores from this third component is detailed in Figure 4.6. The most immediately apparent anomalies are the high scores recorded by both Grove School and Grove Lodge (marked A on Figure 4.6), although it has already been established from the earlier results that they were very different in character and status. The high score achieved by Grove School is due to the presence of a relatively large proportion of domestic servants - in fact 40.0% of the total adult population at the school were servants (Figure 4.3). The inhabitants of Grove Lodge on the other hand, did not include any servants but a third of the adult population were employed as labourers. Thus both areas achieve high scores for this third component, despite being very different in terms of socioeconomic status.

Another group of streets with high scores appear in the western part of the town, near the river Gwenfro. The Walks (marked B on Figure 4.6), Well Street and Isle of Man (marked C on Figure 4.6) all have very high scores (sextile 1) while Pentrefelin and Island Green also maintain high scores. Further to the east, towards the town centre, Brook Street and

Figure 4.6

1841 : Component Three : Socioeconomic Status / Ethnic Status.



A Grove School / Grove Lodge
B The Walks
C Isle of Man

D Salop Road
E Old Yorkshire Hall
F King Street

Vicarage Hill have scores of lower magnitude (sextile 3). This whole area along the river was of relatively low socioeconomic status, except for the outlier of Island Green. At this time the latter was still a prosperous country estate and the high score was due to the presence of domestic servants.

In contrast, both The Walks and Pentrefelin show very mixed populations in terms of socioeconomic status but those of lower status were usually dominant within the street. In The Walks some 60.8% of the household heads were classed in socioeconomic groups 4 and 5, whilst in Pentrefelin the proportion was slightly less, 42.9% (Figure 4.4). No inhabitant of Pentrefelin in 1841 had been born in Ireland but 13.2% of the population of The Walks were Irish by birth and they formed the only real immigrant group within the street (Figure 4.7). The Irish also formed a small proportion (3.5%) of Isle of Man but were more important in Brook Street, where they comprised 9.2% of the population.

Another group of streets showing high component scores in Figure 4.6 is found in the eastern sector of the town, centered on Salop Road (marked D on Figure 4.6) and Wrexham Fechan. Both streets display a mixed population in terms of socioeconomic status but again lower status occupations dominate. In Wrexham Fechan 37.6% of the adult population had occupations classed in socioeconomic groups 4 and 5, while 8.3% of the inhabitants were born in Ireland (Figure 4.7). The

Figure 4.7
1841: Ethnic Status

% of total population in each street classed according to Birthplace:

Street:	Denbigh- shire	England ¹ & Wales	Scotland	Ireland	Foreign
Mount Street	64.2	23.1	-	12.0	0.7
Salop Road	58.0	21.8	0.6	18.4	-
Tuttle Street	83.8	11.7	-	4.6	-
Yorke Street	78.5	20.0	0.5	1.0	-
Hafod y Wern	28.6	71.4	-	-	-
King's Mills	68.0	32.0	-	-	-
Wrexham Fechan	70.8	20.8	-	8.3	-
Eagle Street	83.3	16.7	-	-	-
Dog Kennel Hill	72.5	25.5	-	2.0	-
Caia	62.5	37.5	-	-	-
Willow Hill	78.9	21.1	-	-	-
Madeira Hill	88.9	11.1	-	-	-
Coed y Glynn	14.3	85.7	-	-	-
Sontley Hill	72.2	27.8	-	-	-
Charles Street	64.8	21.3	12.3	-	1.6
Cutler's Entry	76.9	15.4	-	7.7	-
Beast Market	82.6	13.4	2.0	2.0	-
Seven Bridge Lane	80.6	18.8	-	0.6	-
High Street	65.5	34.1	0.4	-	-
Henblas Street	78.4	21.6	-	-	-
Chester Street	77.5	20.8	0.4	1.3	-
Lampit Street	80.2	17.6	-	2.2	-
Queen Street	69.0	29.3	-	-	1.7
Holt Street	69.3	30.7	-	-	-
Groves School	13.1	80.3	-	-	6.6
Groves Lodge	100.0	-	-	-	-
King Street	54.1	41.3	0.9	2.8	0.9
Ney	71.4	28.6	-	-	-
Church Yard	83.3	14.3	-	2.4	-
Brook Street	75.8	15.0	-	9.2	-
Vicarage Hill	74.2	25.8	-	-	-
Abbot Street	84.3	13.2	-	2.5	-
Town Hill	53.9	46.1	-	-	-
Church Street	64.5	35.5	-	-	-
Hope Street	69.6	29.3	0.5	-	-
Well Street	90.2	9.8	-	-	-
The Walks	77.4	8.5	-	13.2	-
Island Green	100.0	-	-	-	-
College Street	81.8	18.2	-	-	-
Pentrefelin	84.7	15.3	-	-	-
Isle of Man	81.4	15.1	-	3.5	-
Gummow's Court	86.7	13.3	-	-	-
Old Yorkshire Hall	60.3	7.7	-	30.8	1.3
Church Steps	50.0	33.3	-	16.7	-
Bowen's Court	80.0	20.0	-	-	-
Mason's Entry	66.7	25.0	-	8.3	-
Owen's Court	84.2	15.8	-	-	-
Price's Court	46.7	46.7	-	6.7	-
Welsh Entry	84.4	15.6	-	-	-
Ysputta	90.0	10.0	-	-	-
Temple Row	66.7	33.3	-	-	-

Source: 1841 Census.

Note 1 : England and Wales, outside of the County of Denbighshire.

Irish were even more important in Salop Road where they formed 18.4% of the total and it would seem that this road formed part of a distinct region where Irish migrants tended to concentrate.

Old Yorkshire Hall (marked E on Figure 4.6) to the south-east of the churchyard, experienced the highest proportion of Irish-born for any street within Wrexham. Here, 30.8% of the population were Irish while the adjoining streets also had quite high proportions of Irish-born residents; Church Steps (16.7%), Mount Street (12.0%) and Tuttle Street (4.6%) all forming a region of Irish influence (Figure 4.7). In 1841 the Irish only formed a small proportion of the total population of the town (Figure 4.8).

Figure 4.8
Wrexham, 1841. Place of Birth.

	Number	%
Denbighshire	3586	73.6
Rest of England and Wales	1063	21.8
Scotland	30	0.6
Ireland	180	3.7
Foreign	11	0.2
Unknown	5	0.1
Total	4875	100.0

Source: 1841 Census.

Those born in Ireland only numbered 180 or 3.7% of the total population of the town. Much of this Irish population was concentrated in the low status, south-

eastern sector of the town, between the churchyard and the river although further to the west, Brook Street and The Walks both had substantial numbers of Irish. In terms of the proportion the Irish-born formed within any one street, Old Yorkshire Hall (which later became known as Yorkshire Square) was the most important area, with the Irish forming nearly one third (30.8%) of the total population of the Hall. The Irish were also important in Salop Road, Church Steps, The Walks and Mount Street (Figure 4.9). However, if this Irish population is examined in terms of the proportion (in any one street) of the total Irish-born in Wrexham (a total of 180 in 1841), Mount Street emerges as having the highest concentration (Figure 4.9). Some 20.0% of the total Irish-born lived in Mount Street with 17.8% in Salop Road. Old Yorkshire Hall, in contrast, only housed 13.3% of this Irish population.

Figure 4.9
The Irish Population of Wrexham.

	% of total Irish-born in Wrexham	% of total population of street
Mount Street	20.0	12.0
Salop Road	17.8	18.4
Old Yorkshire Hall	13.3	30.8
Brook Street	12.2	9.2
The Walks	7.8	13.2
Tuttle Street	5.0	4.6
Beast Market	4.4	2.0
Church Steps	2.8	16.7

Source: 1841 Census.

It is clear that in 1841, this Irish-born population was still small and relatively dispersed throughout the town but already there were signs of an embryonic "Irish quarter" in the south-eastern sector where in three streets (Mount Street, Salop Road and Old Yorkshire Hall) over 50.0% of the total Irish-born were concentrated. As can be seen from Figure 4.9 however, within individual streets the importance of this Irish population varied widely and only in Old Yorkshire Hall could it be said that the Irish formed an important and substantial ethnic minority.

Streets with low component scores in Figure 4.6 form a relatively simple pattern which essentially confirms the earlier patterns observed for components one (Figure 4.2) and two (Figure 4.5). Low scores (sextile 6) are achieved by a group of streets on the northern edge of the churchyard including the commercial centre of High Street and several adjoining streets. This region of low scores extends northwards in the form of Hope Street, Henblas Street and Queen Street, all of which are found in sextile 5. This suggests that low status households and/or those of Irish origin were not an important feature of the central core of the town.

One feature of the central area was the non-local origin of relatively large proportions of the English and Welsh populations living in these streets. Thus in High street, 34.1% of the inhabitants originated

from outside the county of Denbighshire but within England and Wales, while in Town Hill the proportion rose to 46.1%. Similarly, one third of the population of Temple Row came into this category, as did 35.5% of the residents of Church Street (Figure 4.7).⁽¹⁴⁾ The situation in Charles Street was complicated by the presence of migrants from Scotland but again 21.3% of the street's inhabitants were born in England and Wales outside of Denbighshire. Within the town of Wrexham, only a very small proportion of inhabitants were born in Scotland (0.6%; Figure 4.8) but Charles Street formed the focal point for the concentration of Scottish migrants within the town. This Scottish element made up 12.3% of the total population of Charles Street and from the census it is clear that they were mainly employed as tea dealers (Figure 4.10).

Figure 4.10
Occupations of Individuals Born in Scotland and Living
in Charles Street (including apprentices).

	%
Tea Dealers	46.67
Drapers	26.67
Grocers	6.66
Other	20.00

Source: 1841 Census.

Obviously this concentration of Scottish tea dealers within Charles Street comprises a local specialised area within the town and this could perhaps

be termed an ethnic enclave although at a very local and small scale. Undoubtedly, however, migrants born in Scotland found it beneficial to live together, as other ethnic groups did elsewhere, and potential migrants from Scotland would be encouraged to settle in Charles Street rather than elsewhere in the town, thereby maintaining the unusual character of the street.

The Caia, a farm on the eastern periphery of the town, also recorded a low score for component three which would seem somewhat ambiguous for a farm. Indeed, in The Caia, 14.3% of the total adult population were engaged in agriculture with 42.9% employed as domestic servants (Figure 4.3). However, on component three the highest eigenloading was achieved by variable 8, which referred to the proportion of household heads classified in socioeconomic groups 4 and 5. In The Caia, individuals of lower social status were employed to work on the farm, but were not the household head so that a low component score resulted rather than a high score as one would initially expect. However, the position of King Street (marked F on Figure 4.6) as a high status street within Wrexham is confirmed by Figure 4.6. On component three, King Street emerges with an intermediate component score (sextile 3) confirming that both working-class individuals and household heads of low socioeconomic status were not important in its composition.

4.5 Component Four: Socioeconomic Status/ Local Elite

From the analysis of 1841 censal data, components one, two and three were all relatively easy to label and interpret but component four presents many more problems and the resulting spatial pattern of component scores is similarly much more confused. This component accounted for 8.4% of the total variance within the data set and the variables having the highest eigenloadings on this fourth component were:

0.65998	V.19	Sex Ratio: females/males.
0.51074	V.9	% of T.A.P. in S.E.G.s 1 and 2.
0.47319	V.28	% of T.A.P. who are Independent.
0.44990	V.1	% of population born in Denbighshire.
0.42555	V.6	% of Household Heads in S.E.G.s 1 and 2. (7)

It would seem from these eigenloadings that streets with high scores on this component are dominated by women, of high social status and independent means. Thus specialised elite areas should be picked out by the high component scores. The basically socioeconomic character of this component is confirmed by an examination of the lowest (highest negative) eigenloadings:

-0.44537	V.21	% of T.A.P. in Agriculture and Breeding.
-0.39251	V.2	% of population born in England and Wales, except Denbighshire.
-0.35427	V.11	% of T.A.P. in S.E.G.s 4 and 5.
-0.32168	V.8	% of Household Heads in S.E.G.s 4 and 5.
-0.31166	V.13	Mean Household Size. (7)

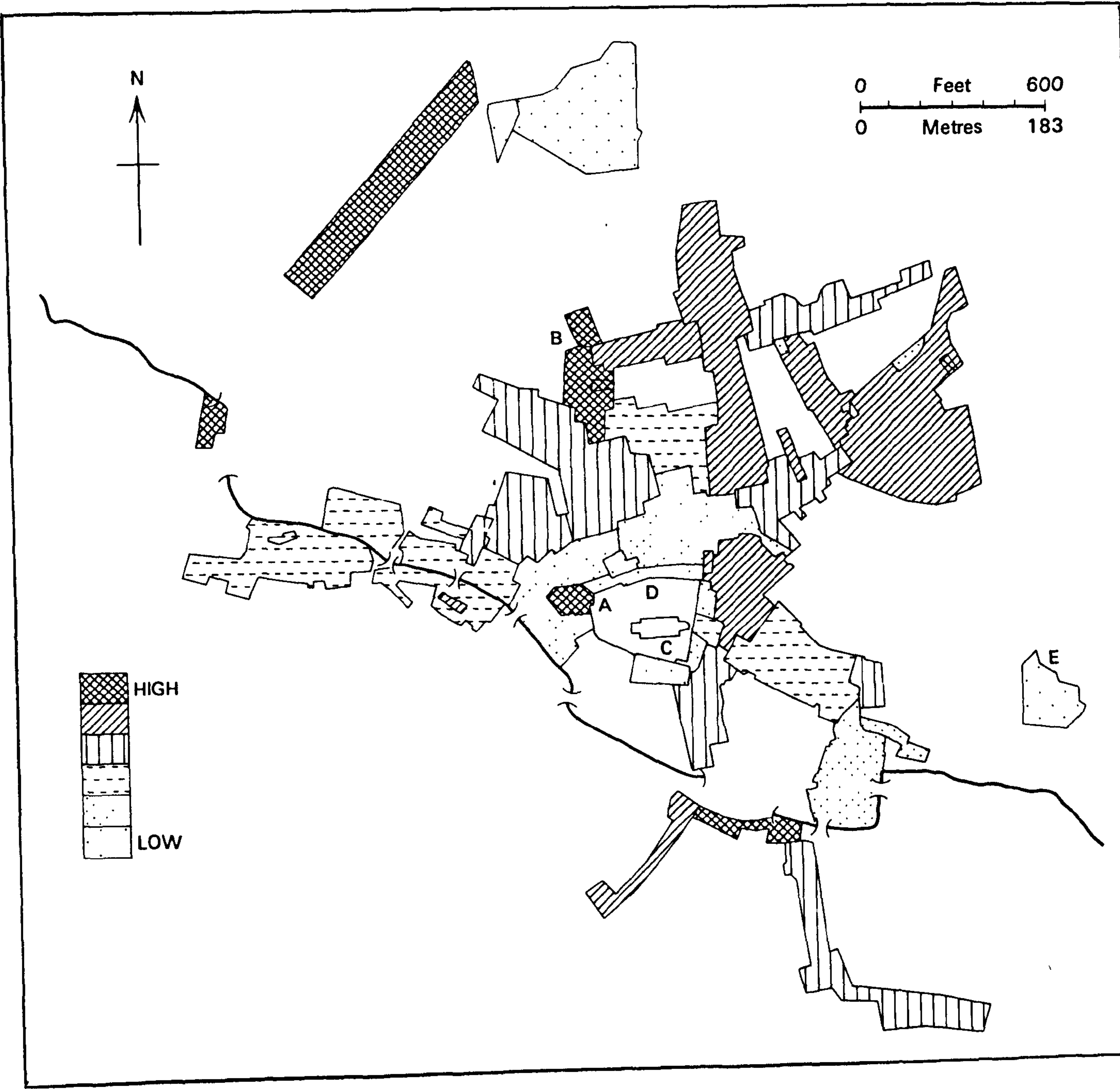
Thus streets displaying low component scores on this fourth component are dominated by populations of low status and non-local origins, although the importance of all the variables is reduced because of the relatively low size of the eigenloadings.

The spatial patterning associated with component four is shown in Figure 4.11. High component scores (sextile 1) are achieved by King Street and Island Green, both of which have already emerged as being areas of high socioeconomic status (see Figure 4.2). Both were inhabited by a local elite and, as will be shown later, King Street in particular was dominated by women household heads. College Street (marked A on Figure 4.11) was another street where the high status of the inhabitants was confirmed.

One interesting area of Wrexham which has high component scores as shown in Figure 4.11, is that encompassing Queen Street and The Yspuddy (marked B on Figure 4.11). Both also emerged as high status areas on component one (Figure 4.2) and their status is reinforced by the scores achieved on component four. This area formed a discrete, high status enclave on the edge of the commercial region of the town, but located away from the main routeways. This local elite character was continued in the adjoining streets of Lampit Street and Chester Road. Although the latter formed one of the main routeways out of the town, residential houses were more important here than

Figure 4.11

1841 : Component Four : Socioeconomic Status / Local Elite.



A College Street
B Queen Street / Yspatty
C Old Yorkshire Hall / Churchyard

D Temple Row
E Caia

commercial concerns, particularly away from the central core.

Other streets which show high scores on component four are less easy to interpret and explain because they have not previously emerged as areas of higher status. These areas include the Beast Market and the adjoining Seven Bridge Lane, as well as an area to the south-east of the town near the river including Willow Hill and Madeira Hill. It seems likely that in these areas the other significant variables, rather than those relating to status, were important.

At the other extreme, streets with low component scores in Figure 4.11 reinforce results previously observed in Figures 4.2, 4.5 and 4.6, and all emerge as areas of low status or non-local inhabitants. To the north of the town, low scores result for both Grove School and Grove Lodge although it has already been shown that the two were very distinctive in character in 1841. Grove School was occupied by the residents of a high status boarding school but many of the pupils originated from outside Denbighshire and the presence of relatively large numbers of low status domestic servants would result in a low component score. Grove Lodge, in contrast, was a low status household with lower status occupations dominant amongst its residents.

A group of streets surrounding the churchyard, at the centre of Wrexham, also all record low component scores in Figure 4.11, but there is a vast difference

in status terms between the commercial streets to the north of the church and the low status streets to the south-east. Old Yorkshire Hall and The Churchyard (marked C on Figure 4.11), along with Salop Road and Dog Kennel Hill in the same sector, are easily explained since it has already been established that this was a low status region within the town. Low scores achieved by the commercial streets of High Street and Town Hill may be explicable in terms of the origins of the resident shopkeeping population, which included a large proportion of English or non-Denbighshire Welsh. In High Street, 65.5% of the population were born within Denbighshire but 34.1% were born in the remainder of England and Wales (Figure 4.7). In Town Hill, the proportions were even more nearly balanced - 53.9% of the inhabitants were born within the county compared with 46.1% originating from elsewhere in England and Wales.

The adjacent streets of Temple Row (marked D on Figure 4.11) and Church Street display similar characteristics in terms of both status and ethnic origins, and this group of streets to the north of the churchyard forms a region within Wrexham where non-local migrants to the town had become important, although the numbers involved were not large enough to dominate within any one street. A low component score was also recorded by The Caia farm (marked E on Figure 4.11) where low status farm employees were engaged, but again 37.5% of its population were born outside the

county of Denbighshire (Figure 4.7).

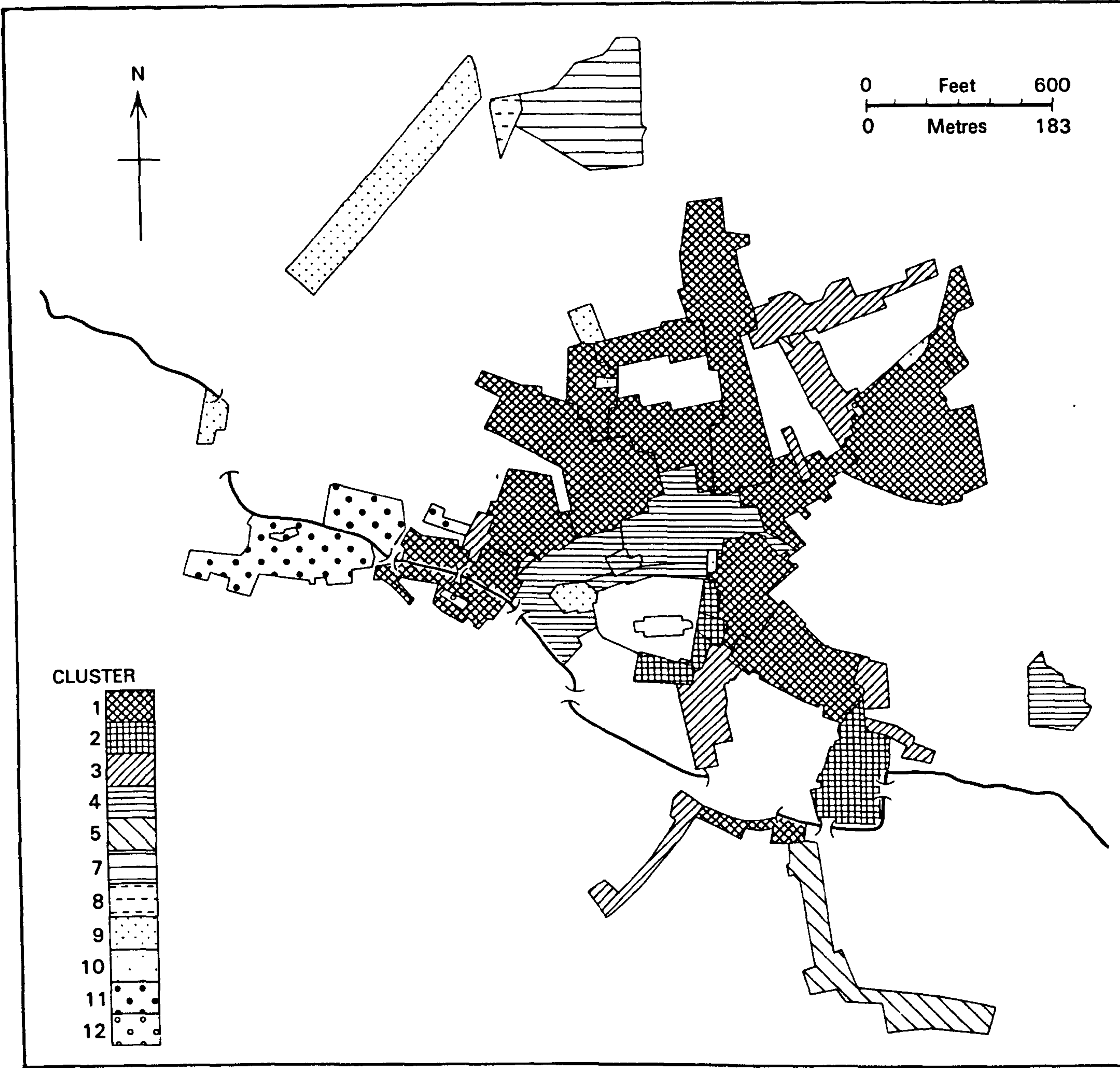
These then are the patterns associated with the town of Wrexham, resulting from the plotting of component scores for the four most important components to emerge from the Principal Components analysis. However, to gain an overview of Wrexham's social structure in 1841, it was decided to also undertake a Cluster analysis on the same data, the results of which are presented below.

4.6 Cluster Analysis

The computer programme package known as Clustan was utilised to undertake a Cluster Analysis⁽¹⁵⁾ on the same data for 1841 already used in the Principal Components analysis. The Ward's Error Sum procedure⁽¹⁶⁾ was employed on the data set which comprised fifty-one streets or cases (Figure 4.1) and the thirty variables already detailed elsewhere (Figure 2.7, Chapter 2). Results for the 12-cluster stage of the analysis were mapped and are presented in Figure 4.12. It was decided to map the results at this level because it represented a sensible choice between too much detail and complete generality. Again for the sake of comparability it was necessary for the results from all four years (1841, 1851, 1861 and 1871) to be mapped at the same stage and this 12-cluster stage seemed the most appropriate. The dendrogram associated with the clustering of the 1841 data is

Figure 4.12

1841 : Cluster Analysis. 12 Cluster Stage.



presented in Appendix C.

It will be seen that in Figure 4.12 only eleven of the twelve clusters have been plotted on the map. Cluster 6 was omitted from the spatial patterning because it was composed entirely of one unique household inhabiting Coed y Glyn, located just outside the town. Several outlying households were included in the analyses because they were enumerated in the census for Wrexham but their locations were not subsequently mapped because of their relative distance from the town.

The remaining eleven clusters of streets have been mapped in Figure 4.12. Immediately it is apparent that Cluster 1 is the largest grouping, in that it contains the highest number of streets within it. Some idea of the nature of each cluster may be obtained by reference to the accompanying T-values for individual variables. For cluster 1 the following T-values are significant:

0.8452	V.12	Households as a % of the total households in the town.
0.6558	V.23	% of T.A.P. in Transport and Building.
0.4778	V.10	% of T.A.P. in S.E.G.3.

All T-values on cluster 1 are relatively low, indicating a very general or mixed cluster, although it may be termed a "working-class" grouping with some evidence of employment in occupations associated with

transport and building. The spatial distribution of cluster 1, as shown in Figure 4.12, consists of an almost continuous belt of streets girdling the town centre particularly to the north of the river, although the scarcity of data for the south-western sector of the town obviously has some effect. Thus, it would seem that this cluster is composed of large streets with typical working-class inhabitants, being neither rich nor poor, and including some streets on the edge of the commercial core as well as more purely residential streets.

Cluster 2 is much smaller in size and is more localised in area, concentrated in the south-eastern sector of the town. T-values again reveal the nature of this cluster. The highest significant T-values are:

1.4914	V.29	% of T.A.P. engaged as Labourers.
0.6482	V.8	% of Household Heads in S.E.G.s 4 and 5.

At the other extreme, significant negative T-values include:

-0.7308	V.9	% of T.A.P. in S.E.G.s 1 and 2.
-0.6733	V.27	% of T.A.P. in Domestic Service.
-0.6503	V.28	% of T.A.P. who are Independent.
-0.5788	V.18	% of population aged 60+ years.

Obviously cluster 2 is a low status cluster emphasising those streets which have lower status

populations, such as those which have already emerged on the south-eastern edge of the churchyard. This cluster includes Old Yorkshire Hall (later Yorkshire Square) which has already been established as a low status area, particularly important for the presence of individuals born in Ireland who formed nearly one third of the total population of the hall in 1841 (Figure 4.7). Salop Road, another street of low status, also included a substantial Irish population (18.4%) while the Church Steps (leading from the churchyard) had 16.7% of its inhabitants born in Ireland.

The low status of these streets is emphasised by an examination of The Register of Electors of the Borough of Denbigh for 1840.⁽¹⁷⁾ In 1832, Wrexham was admitted, along with Ruthin and Holt, as a contributory borough to the Parliamentary Borough of Denbigh. One condition of franchise was a £10 rateable value for male householders. Thus low status households and tenants were excluded from the register and such householders were ineligible to vote. By analysing where eligible electors actually lived in Wrexham it is possible to isolate streets of lower status. Thus for Salop Road, of the thirty-three households identified from the census of 1841, only five were included in the register of electors for 1840 - a proportion of only 15.15%. The Churchyard had a similar percentage (18.18%) whilst no householder in Old Yorkshire Hall or the Church Steps qualified for the register. The Report to the General Board of Health for 1849 had the

following to say about this area near the churchyard:

"Contiguous to the south-east corner of the churchyard are some wretched tenements. A row of cottages of the most miserable description face and are below the level of the churchyard. They have neither privy nor back premises of any description; all their refuse is thrown into the churchyard, and drains down the public steps into Tuttle-street. The backs of these cottages are built against some of another group known as Old Yorkshire-square. Here are altogether 35 tenements with one privy, and that in a state quite unapproachable. The court is occupied by dung-pits and collections of filth, and in parts sodden with ordure. The privy of these cottages drains into a succession of open pools of soil, which extend at the back of other cottages, and into a public way opening from Tuttle-street. The sickness here is severe, and the annual mortality 38.2 in the 1,000..."(18)

Obviously the inhabitants of such cottages and courts would not qualify for an electoral vote and were indeed very poor. Other areas of the town will be shown to have fared little better at this time.

The next cluster, Cluster 3, also includes some streets in this poor, south-eastern sector of the town, but T-values reveal that the essential character of the cluster is dominated by the life-cycle stage of child rearing:

0.8076	V.15	% of population aged 0-4 years.
0.7317	V.24	% of T.A.P. in Manufacturing.
0.5578	V.16	% of population aged 0-14 years.
0.5511	V.20	Fertility ratio.

Households in this cluster are at a relatively early stage in their lifecycles and are engaged particularly in the rearing of young children. As can be seen from Figure 4.12, streets included in cluster 3 are scattered throughout the town of Wrexham although, in general, all are on the periphery rather than at the centre.

In general it is streets included in Cluster 4 which occupy the centre of the town, along the northern edge of the churchyard, but there is also an outlier to the east in the form of The Caia. The significant T-values indicate that here the population is non-local and working-class although domestic servants are important because of the commercial function of the area:

1.4927	V.7	% of Household Heads in S.E.G. 3.
1.3668	V.17	% of population aged 15-59 years.
1.3246	V.27	% of T.A.P. in Domestic Service.
1.0665	V.2	% of population born in England and Wales (except Denbighshire).

This contiguous group of streets in the town centre includes the main commercial street - High Street - and the adjacent Town Hill, Church Street and Temple Row. The similarity in 1841 of this region and The Caia has already been emphasised in this chapter - both areas emerged with similar component scores on all four components examined in the earlier Principal Components analysis.

Looking again at the electoral register for 1840,⁽¹⁹⁾ the solid and successful nature of households included in this cluster can be determined. In High Street, 81.82% of householders (male) were eligible to vote, while for Town Hill the proportion was only slightly lower (66.66%). For both, although particularly in High Street, shops as well as houses were recorded in the register. For Church Street a similar proportion of the householders were found in the electoral register (83.33%) but no entries were recorded at all for Temple Row which seems something of an anomaly.

Only two areas compose Cluster 5 - Wrexham Fechan and Price's Court (off Holt Street), and the T-values suggest that this cluster is one of low socioeconomic status. However, since only two streets form this cluster, it suggests that both Wrexham Fechan and Price's Court are fairly unique, as are those areas or streets which form clusters 6, 7 and 8. As has already been explained, cluster 6 does not appear in Figure 4.12, while Cluster 7 consists solely of Grove School, the private boarding school to the north of the town. It has already been established that Grove School was very specialised and unique in terms of Wrexham in 1841, as was Grove Lodge which alone forms Cluster 8.

The next cluster, Cluster 9, is composed of high status streets within the town, as suggested by the

significant T-values:

2.7383	V.19	Sex Ratio: females/males.
2.3594	V.6	% of Household Heads in S.E.G.s 1 and 2.
1.8167	V.9	% of T.A.P. in S.E.G.s 1 and 2.
1.5537	V.27	% of T.A.P. in Domestic Service.
1.0605	V.11	% of T.A.P. in S.E.G.s 4 and 5.

Obviously the four streets which comprise this cluster represent the elite areas of Wrexham and three of the four have classic locations at the periphery, with only College Street near the town centre. The T-values emphasise the dependence of these households on domestic servants and also suggest that women dominate over men in these areas with the sex ratio variable having the highest T-value. This could be due to the presence of retired or independent women (often widows) as household heads. This notion is supported by an examination of the electoral register.⁽²⁰⁾ In 1840 only male householders were eligible to vote so that women who were household heads were omitted from the register. By looking at the proportion of householders eligible to vote in these high status areas, some idea of the importance of women household heads can be ascertained since it is fair to assume that most, if not all, houses in such areas had a rateable value of more than £10.

King Street, the first residential street to be developed in Wrexham was obviously of high social status and yet only five of the twenty-three

householders in the street were included in the electoral register (21.74%). This suggests that here, female household heads were important and this is found to be the case when the original census data are examined. Of the twenty-three household heads in King Street, thirteen were women and most were of independent means although some declared themselves as school mistresses. Clearly, in 1841, King Street was an important high status enclave of a rather specialised nature. The other areas in cluster 9, including Island Green and Ysputty, have already been shown to have attained a high status at this date.

Three small court areas, The Nef, Bowen's Court (in the Beast Market) and the Welsh Entry (in Queen Street) comprise Cluster 10. T-values suggest that these courts were occupied by an elderly, working-class population:

2.4220	V.18	% of the population aged 60+ years.
1.7206	V.14	Mean age of Household Head.
1.4976	V.10	% of T.A.P. in S.E.G. 3.
1.4801	V.25	% of T.A.P. in Dealing.

The three courts forming cluster 10 were scattered throughout the town in 1841, but in contrast, Cluster 11 forms a relatively compact area in the west, bordering the river. T-values support the idea of this area as one inhabited by low social status households:

1.2957	V.8	% of Household Heads in S.E.G.s 4 and 5.
0.7374	V.21	% of T.A.P. in Agriculture and Breeding.
0.6830	V.1	% of population born in Denbighshire.
0.5507	V.11	% of T.A.P. in S.E.G.s 4 and 5.
0.5288	V.14	Mean age of Household Head.

Of particular significance is the T-value relating to the percentage of household heads classified in socioeconomic groups 4 and 5 (variable 8) since the low status of this area has already emerged in Figure 4.2, although the rurality of the peripheral location and an emphasis on locally born inhabitants also emerge from the above T-values. Even so, migrants were not unknown in this area, the Irish being of particular importance in The Walks (Figure 4.7).

Cluster 11 is made up by Well Street, The Walks, Isle of Man and the district of Pentrefelin, and of these only The Walks and Pentrefelin have entries in the 1840 electoral register.⁽²¹⁾ Only 3.30% of the householders in Pentrefelin were eligible to vote and the proportion for The Walks was only slightly better (8.7%). Such evidence again confirms the poverty of this area and indeed the riverside location would itself mitigate against habitation by higher status households. Conditions in Pentrefelin were described in some detail in the Report to the General Board of Health in 1849:

"It (Pentrefelin) is chiefly composed of cottages of a very bad description, thatched, quite undrained, damp, with few or no privies, ill-paved courts, pigstyes, donkey stables, close or no back premises, and windows not made to open...The tenants store manure for sale in large quantities. In one case were 15 houses with but one privy..."(22)

This low-lying area was one of the most unhealthy areas in Wrexham and fever was endemic here due to such problems of sanitation.

The final cluster, Cluster 12, again is composed entirely of two small court areas - Gummow's Court (Brook Street) and Owen's Court (Beast Market). T-values again suggest that these courts were inhabited by young working-class families:

2.9537	V.20	Fertility Ratio.
2.2219	V.24	% of T.A.P. in Manufacturing.
2.1609	V.15	% of population aged 0-4 years.
1.9459	V.10	% of T.A.P. in S.E.G. 3.
1.5732	V.7	% of Household Heads in S.E.G. 3.

Leaving aside this detailed discussion, in general terms Figure 4.12 shows several aspects of the classic pre-industrial sociospatial structure as put forward by Sjoberg and Vance,⁽²³⁾ but more important and more interesting are the embryonic features of the industrial town as detailed by Burgess and others.⁽²⁴⁾

Certainly in 1841, many of Wrexham's higher status families, particularly those engaged in commercial activities, still lived in the town centre, often at

their place of work. Thus, the main commercial streets to the north of the churchyard (which we may consider to be the centre of the town) show quite high scores in socioeconomic terms although they do not include the social elite of the town who had already moved to the periphery by 1841. Surrounding this core, particularly to the north and east, are a mass of streets of working-class populations (cluster 1 in Figure 4.12) showing neither extreme of socioeconomic status. Further out from the centre, on the periphery of the town, were two areas in particular of lower status households, both bordering the river and both to the south of the built-up area. In the south-west this comprised an area including Pentrefelin and further to the east it formed a low status area on both sides of the river Gwenfro reaching as far as the south-east corner of the churchyard.

As far as it goes, this simplified pattern agrees very well with descriptions of pre-industrial towns. However, particularly to the north of the town, higher status population movements to the periphery, such as the development of King Street (built in 1836), represent the first signs of the transition from the pre-industrial to the industrial state, including the reversal of the earlier basic spatial pattern. This embryonic high status area to the north-west was to develop in succeeding years but in 1841 it was still in the early phases of its growth.

In 1841, court development in Wrexham was only on a relatively small scale but already inhabitants of these courts were often of lower socioeconomic status than the occupants of houses fronting the main streets. Wide variations between back courts and the houses on the main thoroughfares were already beginning to develop and such problems were highlighted a few years later in the Report to the General Board of Health:

"The back premises of nearly the whole mass of buildings, constituting a square, bounded by Lambpit-street, Queen-street, Hope-street, Chester-street, and High-street, are generally in a state of filth, creating offensive and hurtful effluvia, and this to a greater degree than could be suspected from the respectable appearances of many of the houses fronting the streets."(25)

As the town grew in subsequent years, such problems were to be intensified as more courts developed in such "back premises", emphasising still further the disparate variations between conditions in houses along the main routeways and those for nearby populations living in courts and alleys.

4.7 Notes

1. Armstrong, W.A. (1978) "The Census Enumerator's Books: A Commentary", In Lawton, R. (Ed.), (1978) The Census and Social Structure. An Interpretative Guide to Nineteenth Century Censuses for England and Wales, Cass, London, p.28-81. Beresford, M. (1963) "The Unprinted Census Returns of 1841, 1851 and 1861 for England and Wales", Amateur Historian, Vol.5,(8), p.260-269. Drake, M. (1972) "The Census 1801-1891", In Wrigley, E.A. (Ed), (1972) Nineteenth- Century Society. Essays in the Use of Quantitative Methods for the Study of Social Data, Cambridge University Press, Cambridge, p.7-46.
2. Manuscript copy of the 1841 census for Wrexham obtained from the Clwyd County Record Office, at Ruthin.
3. Palmer, A.N. (1893) History of the Town of Wrexham, its Houses, Streets, Fields and Old Families. Being the Fourth Part of 'A History of the Town and Parish of Wrexham', Woodall, Minshall and Thomas, Wrexham (Reprinted 1982).
4. Register of Electors of the Borough of Denbigh, 1840. Entry for the town of Wrexham. Clwyd County Record Office, Ruthin.
5. Daultry, S. (1976) Principal Components Analysis, Concepts and Techniques in Modern Geography (CATMOG) No.8, Norwich. Clark, D. (1973)

- "Normality, Transformation and the Principal Components Solution: An Empirical Note", Area, Vol.5,(2), p.110-113. Bennett, D. (1977) "The Effects of Data Transformations on the Principal Components Solution", Area, Vol.9(2), p.146-152.
6. Palm, R. and Caruso, D. (1972) "Labelling in Factorial Ecology", Annals of the American Association of Geographers, Vol.62, p.122-133.
 7. For the full list of variables see Chapter 2, Figure 2.7.
 8. Armstrong, W.A. (1972) "The Use of Information about Occupation", In Wrigley, E.A. (Ed.), (1972) Nineteenth-Century Society, Cambridge University Press, Cambridge, Chapter 6, p.198-225.
 9. Dodd, A.H. (Ed.), (1957) A History of Wrexham, Denbighshire, Hughes and Son, Wrexham.
 10. The Wrexham Advertiser, December 1850. The National Library of Wales, Aberystwyth.
 11. Register of Electors of the Borough of Denbigh, 1840. Entry for the town of Wrexham. Clwyd County Record Office, Ruthin.
 12. Report in the Wrexham Advertiser, April 1st, 1852. The National Library of Wales, Aberystwyth.
 13. In all the maps showing the resulting component scores, the scores were grouped into sextiles around the median prior to mapping to improve the clarity of the maps.
 14. A more detailed breakdown of birthplace data is not possible with the 1841 census because of the

restricted information which was collected. See Figure 2.3.

15. Wishart, D. (1969) Fortran 11 Programs for 8 Methods of Cluster Analysis (Clustan 1), State Geological Survey, University of Kansas (Lawrence) Computer Contributions 38,9.
16. Ward, J.H. (1963) "Hierarchical Grouping to Optimize an Objective Function", The Journal of the American Statistical Association, Vol.58, p.236-244.
17. Register of Electors of the Borough of Denbigh, 1840. Entry for the town of Wrexham. Clwyd County Record Office, Ruthin.
18. Clark, G.T. (1850) Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage and Supply of Water and the Sanitary Condition of the Inhabitants of the Town, Borough or Place of Wrexham, National Library of Wales, Microfiche Card 211, No.392, Page 14, Paragraph 47.
19. Register of Electors of the Borough of Denbigh, 1840. Entry for the town of Wrexham. Clwyd County Record Office, Ruthin.
20. Register of Electors of the Borough of Denbigh, 1840. op.cit.
21. Register of Electors of the Borough of Denbigh, 1840. op.cit.
22. Clark, G.T. (1850) op.cit. Page 12, Paragraph 33.

23. Sjoberg, G. (1960) The Pre-Industrial City: Past and Present, Free Press of Glencoe, New York.
- Vance, J.E. (1966) "Housing the Worker: The Employment Linkage as a Force in Urban Structure", Economic Geography, Vol.42, p.294-325. See the notes to Chapter 1 for further references.
24. Burgess, E.W. (1925) "The Growth of the City: An Introduction to a Research Project", In Park, R.E., Burgess, E.W. and McKenzie, R.D. (Eds.), (1925) The City, Chicago University Press, Chicago, p.47-62. This paper has also been reprinted elsewhere.
25. Clark, G.T. (1850) op.cit. Page 11, Paragraph 31.

CHAPTER 5

WREXHAM IN 1851

5.1 Introduction

"....this town possesses great local advantages and derives considerable importance from its being situated in the immediate vicinity of coal, iron and lead mines, which are carried on very extensively.... Latterly a very marked improvement has been effected by the inhabitants in the general aspect of the town. A commodious market-hall has been erected, covered in and well-lighted; the gas works have been much enlarged; and through the disinterested and active exertions of Mr. Overton and Mr. John Clark, the foot-paths of the principal streets have been well flagged.

There are also several extensive Breweries here, celebrated for brewing the finest flavoured ale in the kingdom; and upon several streams are mills for grinding corn and manufacturing paper. The surrounding country is very pleasant - the hilly portion is rich in minerals and the level districts exceedingly fertile...."(1)

As such was the town of Wrexham described on the eve of the next census which was undertaken the following year, in 1851. Data derived from this census were analysed in a similar fashion to those for 1841 and described in the previous chapter. The 1851 census (and subsequent years) asked more questions than that of 1841, so additional variables could be included

in the analysis.⁽²⁾ Thus, forty-two variables were used for the three censal years 1851, 1861 and 1871 (Figure 2.6, Chapter 2), as compared with the total of thirty variables used in the 1841 analysis (Figure 2.7, Chapter 2). These variables have been described adequately in Chapter 2.

During the decade 1841 to 1851, Wrexham grew relatively slowly. In the 1851 census a total of 6,714 individuals were enumerated. Unlike the situation in 1841, records have survived for the whole of the town. Thus the south-western sector, which unfortunately had to be omitted from the 1841 study, was included in this second analysis. For 1851, seventy-two streets (Figure 5.1) were identified from the census, compared with the fifty-one used in the analysis for 1841 (Figure 4.1). Some variation in the definition of streets between the two years was inevitable but problems were relatively easy to resolve. For 1851, the same procedures already outlined in Chapter 2 and utilised in Chapter 4 were employed on this data set. After undertaking a Principal Components analysis, the first four components to emerge (which accounted for some 44.5% of the total variance in the data set) were again examined in detail and the results will be discussed below. Subsequently a Cluster analysis was employed on the data set to provide an overview of the sociospatial patterning of Wrexham at this date.

Figure 5.1
1851: Street units identified from the census
 (total of 72)

Mount Street	Queen Street
Mount Yard, Mount Street	Holt Street
Mount House, Mount Street	Groves School
Church Hill, Mount Street	Groves Lodge
Salop Road	King Street
Stone Masons Yard, Salop Road	Mold Road
Old Bridewell, Salop Road	Ney (Nef)
Tuttle Street	Church Yard
York Street	Cefn y Cwne
Hafod y Wern	Brook Street
Kings Mills	Vicarage Hill
Wrexham Fechan	Abbot Street
Eagle Street	Town Hill
Caia Hill	Church Street
Dog Kennel Hill	Hope Street
Caia	Hope Road
Willow Hill	Bryn y Fynnon
Madeira Hill	Priory Street
Barn Field	Well Street
Coed y Glyn	The Walks
Sontley Hill	Island Green
Charles Street	Yorkshire Square
Jenkin's Entry, Charles Street	Street Draw
Cutler's Entry, Charles Street	Erddig Road
Beast Market	Penybryn
Haye's Entry, Beast Market	Bridge Street
Theatre Lane/Road	College Street
Crescent Terrace/Place	Pentrefelin
Beast Market Court	Isle of Man
Seven Bridge Lane	Belle Vue (Road)
Spring Lodge	Nailor's Yard
High Street	Thornley Court (Square)
Kenrick Street	Gummow's Court, Brook Street
Henblas Street	Bonk
Chester Street	Tenter's School
Lambpit Street	Bridewell

Note:

The spellings of street names may vary slightly between dates - the usual spelling for any one census year is used. Similarly, alternative uses of street/road, place/terrace etc. are also given.

5.2 Component One: Socioeconomic Status

This first component had an eigenvalue of 7.81385 and it accounted for 18.6% of the total variance in the data set. The labelling of this axis was relatively easy from the significant eigenloadings:

Eigenloading	Variable Number and Title ⁽³⁾	
0.79583	V.39	% of total adult population (T.A.P.) engaged in Domestic Service.
0.77531	V.11	% of Household Heads in Socioeconomic Groups (S.E.G.s) 1 and 2.
0.77341	V.14	% of T.A.P. in S.E.G.s 1 and 2.
0.74623	V.19	% of households with domestic servants.

Thus streets which have high component scores on this axis in 1851 were essentially high status streets where households were obviously dependent on domestic servants. In the 1851 census (and for each subsequent census) the "relationship to the household head" was recorded for each member of the household so that both domestic servants and lodgers were more easily identified than had previously been the case, and their importance within any household could more reliably be determined.

At the other extreme and looking at the lowest (highest negative) eigenloadings, low component scores reveal streets which had essentially working-class populations in 1851:

-0.74923	V.12	% of Household Heads in S.E.G. 3.
-0.73682	V.15	% of T.A.P. in S.E.G. 3.
-0.61714	V.36	% of T.A.P. in Manufacturing.
-0.60155	V.29	Fertility Ratio (3)

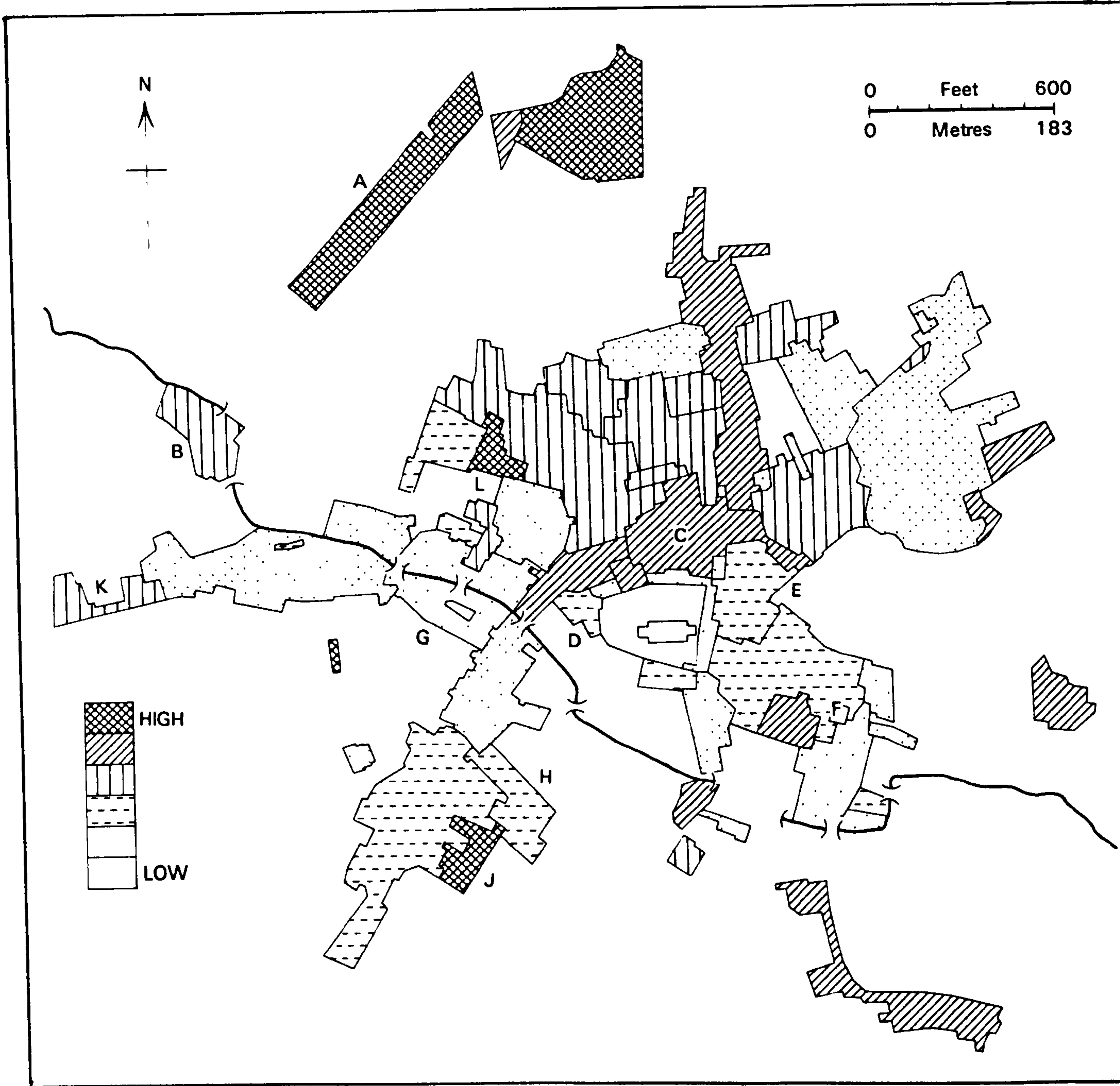
The pattern of component scores associated with this first axis of differentiation is presented in Figure 5.2.⁽⁴⁾ In general the overall pattern is very similar to that revealed for the socioeconomic status component for 1841 (Chapter 4, Figure 4.2) although several streets experienced a change in status over the decade.

In the north-west of the town, the signs of an embryonic high status sector apparent in 1841 are maintained in 1851. King Street (marked A on Figure 5.2) and Grove School both retain their superior status while Grove Lodge has improved in status over the decade and now forms part of sextile 2. In contrast, one peripheral area declined in status between the two dates. Island Green (marked B on Figure 5.2) which formed part of the high status area in 1841 declined in socioeconomic terms following the death of the estate's owner and the subsequent sale of the estate to a brewery in 1850.⁽⁵⁾

At the centre of the town, along the northern edge of the churchyard, another high status area emerges in Figure 5.2. Again this is in general agreement with the results for 1841 (Chapter 4, Figure 4.2) although by 1851 the area was less extensive than a decade

Figure 5.2

1851 : Component One : Socioeconomic Status.



A King Street
B Island Green
C High Street
D College Street
E York Street
F Church Hill

G Brook Street
H Street Draw
J Erddig Road
K Belle Vue Road
L Priory Street

earlier. In 1851 this high status area (sextile 2) was concentrated on High Street (marked C on Figure 5.2) and the adjoining Chester Street (to the north-east), Town Hill (to the west) and Church Street. High Street was still the main commercial hub of the town and the street had lately profited from the building of a Market Hall in 1848, while most of this street and the neighbouring Hope Street had been paved in 1846 by both public and private subscription. On market days, both streets often became very crowded with stalls which led to some grievances from the local people:

"....great inconvenience experienced by visitors to our Market, from the crowding for sale in High Street, and Hope Street on the footpaths, of crockery and other articles. It is a practise which I think ought to be prevented, and is, especially where the footpath happens to be narrow, positively dangerous..."(6)

Throughout the rest of the nineteenth-century, much comment was made in the newspapers about the siting of particular markets (such as the vegetable market) and the problem of stalls in the narrow streets of Wrexham, but such chapmen continued to operate in the streets well into the last quarter of the century.

A comparison of the relevant figures for 1841 and 1851 shows that some streets near the town centre appear to have declined in status over the decade. The row of cottages along the northern edge of the

churchyard, called Temple Row in 1841, was not enumerated separately in 1851 when all the houses around the church were grouped together under the title of "The Churchyard", a term previously confined to those houses along the eastern edge of the churchyard only. Thus in Figure 5.2, Temple Row appears to have declined dramatically in status, when compared with Figure 4.2, but some, if not all, of this reduction in socioeconomic status is due to the inclusion of this area with the rest of the churchyard.

One street which did undergo a decline in socioeconomic status over the decade, was College Street (marked D on Figure 5.2), also located near the churchyard. In 1851, College Street emerged in sextile 4, that sextile being representative of a low status population. Yet earlier, in 1841, the street had been inhabited by a much higher status population when it formed part of sextile 1 (Figure 4.2). At the beginning of the decade, College Street was thought to have been a high status remnant from the pre-industrial period, when the local elite generally occupied houses at the town centre and particularly near religious institutions. However, clearly by 1851 at least, College Street was no longer an elite location within Wrexham and the street had deteriorated to the same low status of other streets adjoining the churchyard.

The south-eastern sector of the town again emerged as an area of predominantly lower status in Figure 5.2, although within this sector there were certain specific



changes over the decade. Certain streets including York Street (marked E on Figure 5.2) and Tuttle Street declined in status while Yorkshire Square (formerly Old Yorkshire Hall) and Mount Street maintained their low socioeconomic status. The status of Mount Street was complicated in 1851 by the subdivision of the street in the census enumerators' books. Part of the lower end of Mount Street became known as Church Hill (marked F on Figure 5.2), while the substantial mansion house known as "The Mount" was also enumerated separately. It is this house which forms the noticeable high status enclave in this relatively low status area in 1851. Salop Road had also become subdivided for enumeration purposes in 1851, both the "Old Bridewell" and "Stone Mason's Yard" were recorded separately. Salop Road itself appears to have improved in status over the decade and in 1851 it formed part of a working-class region along with Eagle Street and Dog Kennel Hill (sextiles 6 and 5). However this whole area, which was located in close proximity to the local gas works, was in general inhabited by those of lower status.

Some insight into the social conditions found in two low status streets in this area (Tuttle Street and Willow Hill, both of which form part of sextile 5 in Figure 5.2), can be gleaned from a complaint about the inefficiency of the policeforce in Wrexham published in a newspaper of the period and written by a resident of Willow Hill:

"....repeatedly and ineffectually requested to visit occasionally Tuttle-street and Willow-hill, to suppress the outrages perpetrated to the annoyance of the peaceable householders and their families... On Sundays, and last Christmas day, scores of rude and disorderly children ran about the streets, making most hideous noises all day. Nearly every night, the fighting and swearing and cursing, and shrieking that obtains in Tuttle-street, before and after midnight, shock and alarm the more respectable inhabitants..." (7)

In the west of the town, the other large low status area which emerged in 1841 (see Figure 4.2) and centered on Brook Street (marked G on Figure 5.2) and The Walks also appears to have improved in status over the decade to 1851. However any change in the status of lower socioeconomic status streets may prove to be essentially illusory due to the inclusion in 1851 of streets in the south-western sector of the town which had to be omitted from the analysis for 1841. In Figure 5.2 these latter streets emerged as being mainly of lower status, the inclusion of which may have had some effect on the lower end of the social spectrum in particular, when grouping the streets into sextiles.

However if the actual proportions of the population in the various socioeconomic groups are examined for 1851 and then compared with the proportions present in 1841, any change in status will be revealed. Brook Street, where the river Gwenfro ran as an open stream until 1881, appeared to have improved in status over the decade, changing from a

lower status street to one with a working-class population (from sextile 4 to sextile 6), and this improvement is shown to be real if the raw data are examined. In 1841, 51.0% of the household heads were classed in socioeconomic group 3 (Figure 4.4) and by 1851 this had increased to 62.96% (Figure 5.3), whilst over the same period, the proportion classed in socioeconomic groups 4 and 5 declined by a similar amount.

In comparison, the adjoining area of Pentrefelin was examined since it appeared to have maintained a lower status population over the ten year period, forming part of sextile 5 in both years. In 1841, 42.9% of household heads in Pentrefelin were classed in socioeconomic groups 4 and 5, compared with 41.8% in socioeconomic group 3 for the same year (Figure 4.4). Ten years later, only 35.44% of household heads were classed in the lower socioeconomic groups whereas 53.16% of the heads were now classed in socioeconomic group 3 (Figure 5.3). Thus it would appear that Pentrefelin had also undergone an improvement in terms of status over the decade, and yet in the maps it emerged as being unchanged. If however the proportions relating to the total adult population (as opposed to those referring only to household heads) are examined for Pentrefelin at the two dates, then a stable situation does emerge over the decade. In 1841, 29.9% of the total adult population of the area were classed in socioeconomic groups 4 and 5, with 28.2% in

Figure 5.3
1851: Socioeconomic Status

% of Household Heads in each street classed in socioeconomic groups:

Street:	1 & 2	3	4 & 5
Mount Street	15.38	71.15	13.46
Mount Yard	-	-	100.00
Mount House	50.00	50.00	-
Church Hill	-	50.00	33.33
Salop Road	4.35	65.22	21.74
Stone Mason's Yard	-	100.00	-
Old Bridewell	-	100.00	-
Tuttle Street	-	51.28	41.03
York Street	14.63	80.49	4.88
Hafod y Wern	50.00	-	50.00
Kings Mills	14.29	28.57	57.14
Wrexham Fechan	31.03	37.93	27.59
Eagle Street	-	91.66	8.33
Caia Hill	-	-	-
Dog Kennel Hill	-	58.33	33.33
Caia	100.00	-	-
Willow Hill	20.00	70.00	-
Madeira Hill	33.33	50.00	16.66
Barn Field	-	33.33	55.55
Coed y Glyn	-	-	100.00
Sontley Hill	-	-	100.00
Charles Street	17.24	68.96	6.89
Jenkin's Entry	-	100.00	-
Cutler's Entry	-	77.77	11.11
Beast Market	4.30	55.91	24.73
Haye's Entry	-	40.00	60.00
Theatre Lane/Road	-	-	50.00
Crescent Terr/Place	22.22	44.44	22.22
Beast Market Court	-	16.66	83.33
Seven Bridge Lane	-	59.52	38.09
Spring Lodge	33.33	-	66.66
High Street	11.11	85.18	3.70
Kenrick Street	25.00	41.66	25.00
Henblas Street	33.33	50.00	8.33
Chester Street	33.33	43.75	14.58
Lambpit Street	8.33	61.11	25.00
Queen Street	18.18	60.60	21.21
Holt Street	15.00	52.50	22.50
Groves School	100.00	-	-
Groves Lodge	-	-	100.00
King Street	86.96	4.35	4.35
Mold Road	66.66	33.33	-
Ney (Nef)	-	75.00	25.00
Church Yard	12.50	75.00	12.50
Cefn y Cwne	50.00	25.00	-
Brook Street	5.55	62.96	25.93
Vicarage Hill	7.14	42.86	42.86
Abbot Street	-	77.14	17.14
Town Hill	44.00	56.00	-
Church Street	42.86	57.14	-
Hope Street	27.69	56.92	12.31
Hope Road	100.00	-	-

...continued....

Figure 5.3 (continued)
1851: Socioeconomic Status

% of Household Heads in each street classed in socioeconomic groups:

Street:	1 & 2	3	4 & 5
Bryn y Fynnon	-	50.00	50.00
Priory Street	100.00	-	-
Well Street	10.00	60.00	20.00
The Walks	-	41.93	58.07
Island Green	-	22.22	66.66
Yorkshire Square	-	34.61	61.54
Street Draw	6.25	62.50	25.00
Erddig Road	50.00	-	50.00
Penybryn	29.03	45.16	22.58
Bridge Street	8.33	60.42	25.00
College Street	-	72.73	27.27
Pentrefelin	6.33	53.16	35.44
Isle of Man	-	35.29	47.06
Belle Vue (Road)	20.00	20.00	60.00
Nailor's Yard	-	45.45	54.55
Thornley Court (Sq)	-	100.00	-
Gummow's Court	-	62.50	25.00
Bonk	25.00	75.00	-
Tenter's School	100.00	-	-
Bridewell	-	100.00	-

Source: 1851 Census.

socioeconomic group 3. Ten years later the proportions had increased for both classes, but the relative magnitudes were the same - 32.64% of the total adult population were now classed in socioeconomic groups 4 and 5 with 31.40% in socioeconomic group 3.

As can be seen from Figure 5.2, this region in the west of the town and including such areas as Pentrefelin, The Walks (on the opposite bank of the river) and the Isle of Man, along with the south-western sector composed of Bridge Street, Penybryn and Street Draw (marked H on Figure 5.2), forms a large area of obvious low status within Wrexham. Only two areas of higher socioeconomic status intrude into this low status sector, Erddig Road (marked J on Figure 5.2) and Tenters School. Tenters School represents another specialised location, while Erddig Road was a relatively new residential development on the fringe of the town which, in 1851, was still growing. Belle Vue Road (marked K on Figure 5.2), on the extreme western edge of Wrexham, was a similar development but as can be seen from Figure 5.2, it was of a lower, more intermediate status.

Other streets within the town were little changed in socioeconomic terms over the decade. The Beast Market, in the east, again emerged as being of relatively low status in 1851 (sextile 5) but the adjacent, newer, residential developments on the fringe of the area, Crescent Terrace and Theatre Road, have much higher component scores in Figure 5.2 (sextile 2).

Elsewhere, the streets adjoining the commercial centre of the town, to the north of the churchyard, show similar intermediate component scores (sextiles 3 and 5) to those obtained for 1841 (Figure 4.2), although what was later to become Priory Street (marked L on Figure 5.2) was at this time a higher status enclave within this area of Wrexham.

Analysis of the register of electors, 1850 for the town of Wrexham⁽⁸⁾ confirms the basic patterning which emerged on this first axis, as shown in Figure 5.2.

Householders of probable low status, occupying houses with a rateable value of less than £10 are omitted from the list, so an examination of the register enables the identification of broad contrasts within the town.

Among the commercial streets, High Street had the highest proportion of its householders on the electoral register (92.31%) while the adjoining streets such as Church Street (85.71%), Town Hill (44.0%), Hope Street (46.15%), Charles Street (41.38%) and Chester Street (39.58%) all have substantial though lower proportions (Figure 5.4). These figures emphasise the decline in importance of commercial establishments away from the commercial centre, High Street. Obviously premises with shopkeepers living over their shops would have relatively high rateable values and they would therefore be included in the register whereas smaller householders would not.⁽⁹⁾ Thus in streets adjoining High Street, where the commercial function gives way to purely residential houses, lower proportions of the

Figure 5.4

Electors from the Town of Wrexham

The number of householders in The Register of Electors (1850) as a proportion of the total number of households in the street.

Street:	Total Number of Households in Street (1)	Number of Electors in The Register (2)	%
High Street	26	24	92.31
Church Street	7	6	85.71
King Street	23	11	47.83
Hope Street	65	30	46.15
Town Hill	25	11	44.00
Charles Street	29	12	41.38
Chester Street	48	19	39.58
York Street	41	14	34.15
Penybryn	62	20	32.26
Street Draw	32	7	21.87
Salop Road	23	5	21.74
Wrexham Fechan	29	6	20.69
Abbot Street	35	7	20.00
College Street	11	2	18.18
Henblas Street	11	2	18.18
Madeira Hill	12	2	16.67
Queen Street	33	5	15.15
Holt Street	40	6	15.00
Lambpit Street	36	5	13.89
Mount Street	52	7	13.46
Churchyard	8	1	12.50
Beast Market	93	11	11.83
Willow Street	10	1	10.00
Kenrick Street	12	1	8.34
Vicarage Hill	14	1	7.14
Pentrefelin	79	5	6.33
Bridge Street	48	3	6.25
Brook Street	54	1	1.85
(3)			

Notes:

- (1) Taken from the Census, 1851.
- (2) Taken from The Register of Electors of The Borough of Denbigh, 1850. Entry for the town of Wrexham.
- (3) Other streets/areas were given in the register but these have been omitted from this figure because of problems of location or the smallness of numbers involved.

inhabitants were eligible to vote.

One high status area which again had a relatively low proportion of its householders on the register was King Street. In 1850, only 47.83% of the householders were eligible to vote (Figure 5.4), although this was a substantial increase over 1840 when only 21.74% were on the register due to the dominance of women as householders in the street. Obviously, ten years later, the importance of female household heads had declined somewhat but women still played an important role in the street in 1850.

Streets already established as being inhabited by populations of essentially low status in 1851 have either small proportions of householders on the register or are not represented at all. Of those streets in the south-eastern sector of the town, Yorkshire Square and Tuttle Street are both excluded from the register while Mount Street (13.46%), The Churchyard (12.50%) and Willow Hill (10.00%) all have only low proportions of their inhabitants recorded as voters (Figure 5.4). College Street, to the west of the churchyard, which had declined in status over the decade 1841-1851, similarly had a low proportion of its population on the register (18.18%). Streets forming the low status region in the west of the town are also only minimally represented in the electoral register for 1850. Both The Walks and Isle of Man are not recorded in the register at all, while Pentrefelin (6.33%) and Brook Street (1.85%) have only a few

inhabitants who are eligible to vote (Figure 5.4), suggesting that indeed most of their populations lived in small houses of low rateable value or rented property, which in turn confirms a population of lower socioeconomic status for this region.

Thus in terms of socioeconomic status, as indicated by the spatial pattern of component scores on this first axis (shown in Figure 5.2), the social areas of Wrexham in 1851 were very similar to the patterning which had emerged for 1841 (Figure 4.2), although there had been some minor developments or refinements over the decade. The north-western periphery maintained its superior status, as did the main commercial streets at the town centre, with Chester Street acting as the high status link between the two areas.

Along the river, relatively low scores were recorded in general, although some areas were essentially working-class. The south-eastern sector of the town, particularly between the churchyard and the river Gwenfro was again the main concentration of low status households and conditions here were among the worst in Wrexham. One of the worst areas was Yorkshire Square (formerly Old Yorkshire Hall) where no-one classed in socioeconomic groups 1 and 2 lived in 1851. At the same time 61.54% of the square's household heads were classed in socioeconomic groups 4 and 5 with 34.61% classed in group 3 (Figure 5.3). Conditions must have been very similar in the region in the west of the town, whilst to the south of the river

Gwenfro, Penybryn and Street Draw in particular, also recorded similar component scores.

5.3 Component Two: Socioeconomic/Ethnic Status

Some 10.6% of the total variance within the data set was contained within this second axis which had an eigenvalue of 4.43161. Again the significant eigenloadings gave some insight into the character of the component and they suggested that it was concerned with low status households and in particular those which housed lodgers. The highest eigenloadings were:

0.70850	V.32	% of households with "lodger families".(10)
0.67830	V.16	% of T.A.P. in S.E.G.s 4 and 5.
0.63152	V.17	% of households with lodgers.
0.63045	V.9	% of population born in Ireland.
0.57126	V.13	% of Household Heads in S.E.G.s 4 and 5. (3)

Thus streets showing high component scores on this second axis for 1851 were dominated by low status households in which lodgers played an important role. As has been found in other nineteenth-century urban studies⁽¹¹⁾ the Irish were the main ethnic group amongst this lodging population in Wrexham, amongst both the lodgers themselves and the households in which lodgers lived.

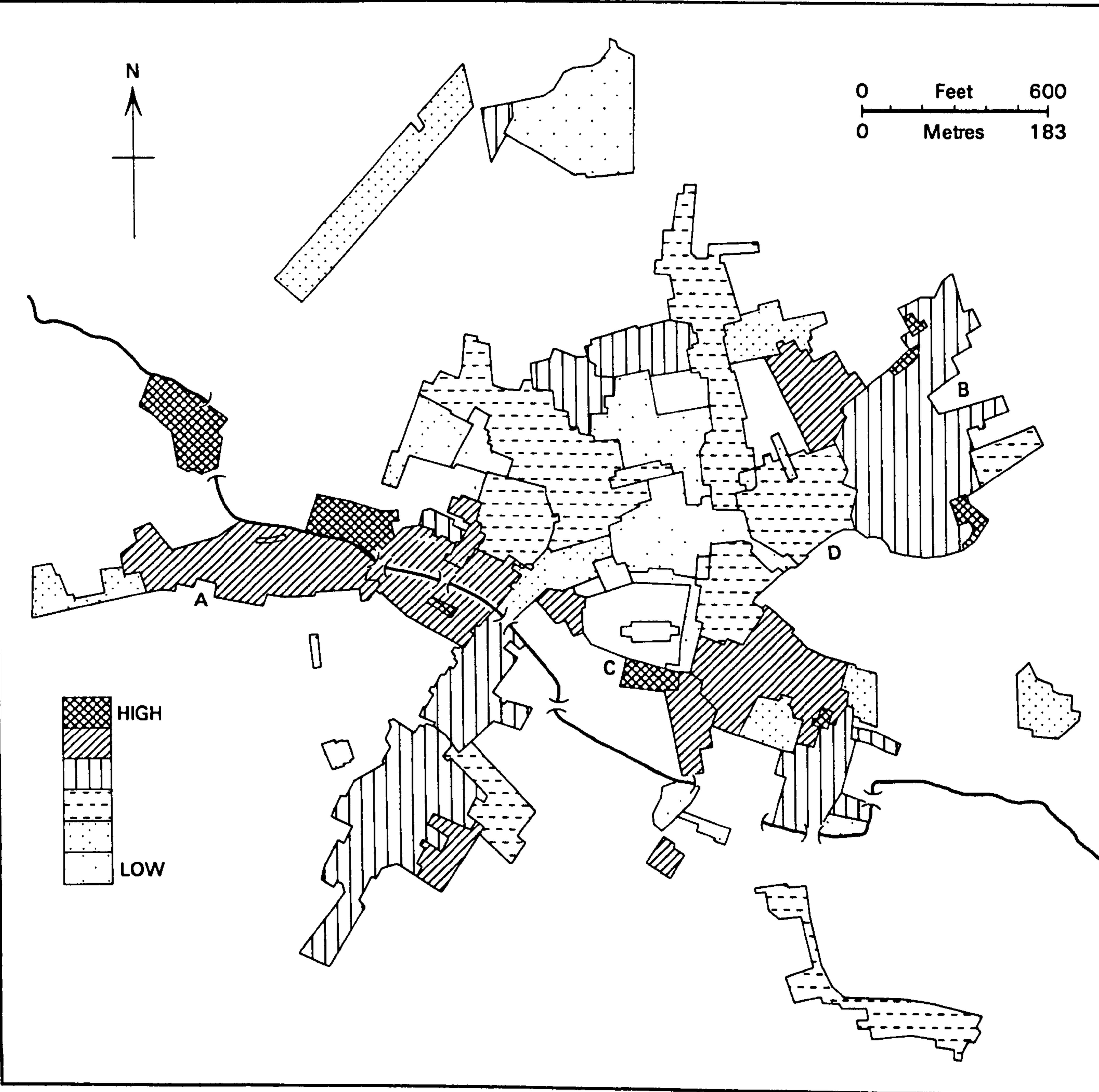
The 1851 census (and every subsequent census) provides much more precise information about this

lodging population. From that year, information was collected by the census enumerators concerning the status of individuals within the family or household and an individual's relationship to the nominated household head was recorded, with lodgers being clearly differentiated.⁽¹²⁾ Before this date (and including the census of 1841) it was impossible to distinguish lodgers with any precision from the information collected and therefore variables concerned with this lodging aspect could not be included in the analysis detailed in Chapter Four. Servants too could be more easily identified from the 1851 census than from previous years, although in this examination of Wrexham some aspects of servant employment were suggested for 1841 from the occupation data and the overall character of the households, although of course such data were much less reliable than that available for later years.

The spatial pattern associated with this second component has been mapped in Figure 5.5. In general the streets with high component scores on this second axis occupy those areas within the town which have already emerged as being low in socioeconomic status in 1851 (see Figure 5.2). In the west of the town along the river, several areas show high scores including Pentrefelin (marked A on Figure 5.5), The Walks and Island Green while streets in the region between the churchyard and the river in the south-eastern sector of Wrexham, also emerge with high scores. These are the main concentrations of high scores although several

Figure 5.5

1851 : Component Two : Socioeconomic / Ethnic Status.



A Pentrefelin
B Beast Market

C Yorkshire Square
D Charles Street

courts in the area of the Beast Market (marked B on Figure 5.5) also form part of the highest sextile (sextile 1). In 1841, Old Yorkshire Hall (renamed Yorkshire Square by 1851 and marked C on Figure 5.5), was one area of high Irish concentration (Figure 4.7) and it appears from Figure 5.5 that this domination by a single ethnic group was maintained throughout the following decade. Similarly the adjoining streets, Tuttle Street, Mount Street and Church Hill, also show high scores on this second axis in 1851.

In 1851, 564 individuals living in Wrexham had been born in Ireland - some 8.4% of the total population, an increase of nearly 5% over the 1841 situation (Figure 4.8). Figure 5.6 details the breakdown of the population of Wrexham in 1851 into several birthplace groups. The highest proportion of the town's inhabitants were born in Wrexham itself, while nearly one third were born in the adjoining English and Welsh counties. Again the Irish form the only important "immigrant" group within the town, far outnumbering those born in Scotland or in foreign parts.

Figure 5.6
Wrexham, 1851. Place of Birth.

	Number	%
Wrexham	3228	48.1
Denbigh, Flint & Merioneth ⁽¹⁾	1365	20.3
Cheshire, Lancs & Shropshire	846	12.6
Rest of England & Wales	603	9.0
Ireland	564	8.4
Scotland	53	0.8
Foreign	55	0.8
Total	6714	100.0

Source: 1851 Census.

(1) Excluding the town of Wrexham.

Looking at individual streets, the largest concentration of this total Irish-born population (numbering 564) occurs in Yorkshire Square where some 16.7% were living in 1851. Other streets containing important proportions of this Irish population are given in Figure 5.7. Also shown are the proportions this Irish-born population forms of the total population in these individual streets.

Figure 5.7
The Irish Population of Wrexham, 1851.

	% of Total Irish-born in Wrexham	% of Total Population of Street
Yorkshire Square	16.7	57.3
Pentrefelin	11.3	17.0
Brook Street	10.3	18.3
Mount Street	10.1	17.1
The Walks	7.1	27.0
Tuttle Street	6.2	15.6
Isle of Man	4.8	19.1
Seven Bridge Lane	4.4	13.4
Church Hill (Mount St)	4.1	53.5
Salop Road	3.0	13.1
Island Green	2.0	28.9

Source: 1851 Census.

From Figure 5.7 it can be seen that within Yorkshire Square this Irish-born population was dominant, forming 57.3% of its total population. Apart from Church Hill (Mount Street) where they also formed a majority of the total population (53.5%), this Irish population was not dominant within any other street although it did comprise a substantial proportion in several areas. If Figure 5.7 is compared with the relevant figure for 1841 (Figure 4.9) some insight into the changing distribution of this Irish-born population over the decade can be gained. Yorkshire Square (formerly Old Yorkshire Hall) increased its share of Wrexham's Irish population over the period (13.3% increased to 16.7% of the total by 1851) and within the square, the Irish population became dominant over all other ethnic groups including

the English and Welsh (the proportion rose from 30.8% to 57.3% in 1851). However, for other streets, including Mount Street (fall of nearly 10%) and Brook Street (fall of almost 2%) their proportion of the town's total Irish-born population declined over the same period with the most dramatic fall occurring in Salop Road, where the proportion fell from 17.8% in 1841 to only 3.0% of the total in 1851.

Thus it would appear that over the decade 1841-1851, some dispersal of the Irish-born population throughout Wrexham had occurred but at the same time, if the figures for the proportion the Irish formed within individual streets are examined and compared, it can be seen that over the same period, most streets important in 1841 experienced a substantial increase (Figure 4.9, Figure 5.7). Thus, by 1851, within certain streets the Irish had improved their position over the previous decade and now formed a substantial ethnic group within these streets. Figure 5.7 also suggests that the core of the Irish-born population within Wrexham had shifted over the decade, away from the south-eastern sector of the town. Although Yorkshire Square still had the largest proportion of the total Irish-born in 1851 (16.7%), streets in the western sector of the town now accounted for more than one third of the total and taken together, Pentrefelin, Brook Street, The Walks and Isle of Man now formed an important ethnic enclave.⁽¹³⁾

One interesting area included in Figure 5.7 is Island Green, where the Irish-born inhabitants formed a substantial proportion of the estate's total population (28.9%). Although this proportion only constituted some 2.0% of the total Irish-born living in Wrexham in 1851, it does suggest a change in character for the estate over the previous decade, for in 1841 the Irish were unimportant here. Prior to and following the sale of the estate to a brewery,⁽¹⁴⁾ the area declined sharply in status and it appears that this change was accompanied by the introduction of this Irish-born population over this period.

The change in character of College Street over the decade 1841-1851, already mentioned in the discussion of Figure 5.2, is reinforced by this second axis for 1851. In Figure 5.5, College Street also emerged with a relatively high component score (sextile 2) which suggests that lower status inhabitants with lodgers were important here. Thus, by 1851, the street had much more in common with the area to the south-east of the churchyard than with its adjacent high status, commercial neighbours.

As can readily be seen from Figure 5.5, apart from this south-eastern sector of the town, the other major area where high component scores were achieved on this second axis is in the west of the town, bordering the river Gwenfro. It has already been shown that those born in Ireland form substantial proportions in a series of streets in this region, as they do in the

south-eastern sector. Isle of Man, where nearly a fifth of the population were born in Ireland, comprising 4.8% of the town's total Irish-born (Figure 5.7), was described in some detail in the Report to the General Board of Health:

"The Isle of Man is a very low part of Pentrefelyn, close to the brook, between it and the tail race of the mill. It is low, damp, the houses thatched, without privies, and the people chiefly Irish. In one court 20 tons of manure was stored for sale at 4s.6d. a ton. Fevers are seldom absent here." (15)

In both this western region of the town and the south-eastern sector between the churchyard and the river, the housing of lodgers was another important feature of the streets. In general terms however, lodgers were slightly less important in the western region when compared with the latter (Figure 5.8). Apart from Gummow's Court, which was situated in Brook Street, the higher proportions are all achieved by streets in the south-eastern sector of the town where households were more willing to take in lodgers than in the western region. However, these areas had much in common in 1851 and this is born out by the following description:

"Were our magistrates and others whose duty it is to check and punish crime to take a stroll into different parts of the town and personally inspect the wretched

Figure 5.8

1851: Households with Lodgers

% of households in each street with lodgers.

Street:	%	Street:	%
Mount Street	30.76	Queen Street	21.21
Mount Yard	-	Holt Street	7.50
Mount House	-	Groves School	-
Church Hill	50.00	Groves Lodge	-
Salop Road	17.39	King Street	17.39
Stone Masons Yard	-	Mold Road	-
Old Bridewell	-	Ney (Nef)	-
Tuttle Street	28.20	Church Yard	12.50
York Street	19.51	Cefn y Cwne	-
Hafod y Wern	-	Brook Street	24.07
Kings Mills	14.28	Vicarage Hill	7.14
Wrexham Fechan	-	Abbot Street	14.28
Eagle Street	8.33	Town Hill	8.00
Caia Hill	100.00	Church Street	-
Dog Kennel Hill	-	Hope Street	20.00
Caia	-	Hope Road	-
Willow Hill	20.00	Bryn y Fynnon	-
Madeira Hill	-	Priory Street	-
Barn Field	5.55	Well Street	10.00
Coed y Glyn	-	The Walks	25.80
Sontley Hill	-	Island Green	-
Charles Street	27.58	Yorkshire Square	26.92
Jenkin's Entry	-	Street Draw	6.25
Cutler's Entry	22.22	Erddig Road	-
Beast Market	19.35	Penybryn	19.35
Haye's Entry	20.00	Bridge Street	16.66
Theatre Lane/Road	25.00	College Street	27.27
Crescent Terrace/Place	11.11	Pentrefelin	18.98
Beast Market Court	50.00	Isle of Man	11.76
Seven Bridge Lane	16.66	Belle Vue (Road)	-
Spring Lodge	-	Nailor's Yard	9.09
High Street	-	Thornley Court (Square)	-
Kenrick Street	-	Gummow's Court	75.00
Henblas Street	-	Bonk	33.33
Chester Street	8.33	Tenter's School	-
Lambpit Street	16.66	Bridewell	-

Source: 1851 Census.

dwelling which are dignified with the name of "homes", - say in some parts of Pentrefelin, The Walks and especially in Pont-Tuttle Square (Yorkshire Square), and most of the back streets, we think they would no longer wonder at the great number of cases which are weekly brought before them, as "drunk and disorderly". Filth and wretchedness are almost inevitable in such dens, and where there is no comfort, nor even the possibility of the decencies of life being preserved at home, it is no wonder that the inmates flee to public houses to pass away their time and to snatch a momentary glimpse of happiness." (16)

Such were the conditions in streets which emerged with high component scores on this second axis, as revealed by Figure 5.5. However, this figure does contain at least one anomaly. Erddig Road returned a high score (sextile 2) on component two but there were no lodgers (Figure 5.8) or people born in Ireland (Figure 5.9) living here in 1851. Thus Erddig Road is a contrast to other streets with high component scores and the Road seems to derive its score from the presence of a mixture of both high and low socioeconomic status households (Figure 5.3).

Low component^{two} scores were recorded in Figure 5.5 by areas and streets which have already emerged as generally being of higher status in 1851 (Figure 5.2). Often these areas are peripheral in location such as King Street, in the north-west of the town, The Caia farm and Belle Vue Road. Both schools, Grove Park School and Tenters School, also return low scores. At

Figure 5.9
1851: Ethnic Status

% of the total population in each street classed according to Birthplace:

Street:	Wrexham	Denbigh, ¹ Flint & Merioneth	Rest of England & Wales	Scotland	Ireland	Foreign
Mount Street	48.6	10.2	22.2	0.6	17.1	0.6
Mount Yard	75.0	12.5	12.5	-	-	-
Mount House	42.9	42.9	14.3	-	-	-
Church Hill	23.3	9.3	11.7	-	53.5	2.3
Salop Road	56.9	6.1	20.1	-	13.1	3.8
Stone Masons Yard	25.0	75.0	-	-	-	-
Old Bridewell	87.5	-	12.5	-	-	-
Tuttle Street	57.1	16.0	8.8	-	15.6	2.2
York Street	48.5	17.2	27.3	0.4	5.9	0.4
Hafod y Wern	33.3	50.0	8.3	-	8.3	-
Kings Mills	43.6	33.3	23.2	-	-	-
Wrexham Fechan	60.6	14.8	21.0	-	-	3.5
Eagle Street	54.5	25.5	20.0	-	-	-
Caia Hill	-	-	12.5	-	87.5	-
Dog Kennel Hill	60.5	16.3	9.3	-	14.0	-
Caia	57.1	-	42.9	-	-	-
Willow Hill	64.0	14.0	16.0	4.0	2.0	-
Madeira Hill	61.9	14.3	23.8	-	-	-
Barn Field	51.6	36.0	12.5	-	-	-
Coed y Glyn	-	33.3	66.7	-	-	-
Sontley Hill	-	20.0	80.0	-	-	-
Charles Street	41.6	17.5	28.1	7.4	5.4	-
Jenkin's Entry	50.0	16.7	33.3	-	-	-
Cutler's Entry	67.4	15.2	13.1	4.3	-	-
Beast Market	55.2	17.6	23.4	0.4	2.6	0.4
Haye's Entry	64.7	17.6	17.7	-	-	-
Theatre Lane/Road	30.8	46.2	23.1	-	-	-
Crescent Terr/Place	32.4	26.4	35.2	-	-	-
Beast Market Court	78.3	13.0	-	8.7	-	-
Seven Bridge Lane	50.0	18.9	17.2	0.5	13.4	-
Spring Lodge	36.8	47.4	15.8	-	-	-
High Street	42.9	26.9	29.8	-	0.5	-
Kenrick Street	50.0	13.8	32.6	3.4	-	-
Henblas Street	49.2	35.4	13.8	-	1.5	-
Chester Street	40.2	29.7	27.9	0.4	1.2	0.8
Lambpit Street	50.0	16.9	24.6	-	7.5	1.3
Queen Street	52.8	23.9	19.6	1.3	1.3	0.6
Holt Street	41.2	31.8	26.5	-	0.7	-
Groves School	14.3	8.1	71.4	-	2.0	4.1
Groves Lodge	25.0	12.5	62.5	-	-	-
King Street	34.4	22.4	36.8	3.2	1.6	-
Mold Road	39.5	42.1	15.7	2.6	-	-
Ney (Nef)	75.0	16.6	8.3	-	-	-
Church Yard	68.8	18.8	12.6	-	-	-
Cefn y Cwne	81.3	18.8	-	-	-	-
Brook Street	48.6	7.8	21.0	0.9	18.3	3.2
Vicarage Hill	49.2	16.4	22.9	-	11.5	-
Abbot Street	56.9	27.6	15.0	-	-	-
Town Hill	37.3	41.5	19.3	-	1.7	-
Church Street	56.8	21.6	18.9	2.7	-	-

...continued....

Figure 5.9 (continued)
1851: Ethnic Status

% of the total population in each street classed according to Birthplace:

Street:	Wrexham	Denbigh, ¹ Flint & Merioneth	Rest of England & Wales	Scotland	Ireland	Foreign
Hope Street	42.6	30.0	26.0	0.9	0.6	-
Hope Road	20.0	80.0	-	-	-	-
Bryn y Fynnon	71.4	-	14.3	-	14.3	-
Priory Street	50.0	12.5	37.5	-	-	-
Well Street	65.8	15.8	5.2	-	13.2	-
The Walks	40.5	14.9	15.7	-	27.0	1.4
Island Green	28.9	36.9	5.2	-	28.9	-
Yorkshire Square	25.0	6.7	10.3	0.6	57.3	-
Street Draw	38.6	22.8	34.0	2.9	-	1.8
Erddig Road	20.0	10.0	70.0	-	-	-
Penybryn	42.4	26.4	25.4	0.6	2.5	2.5
Bridge Street	56.0	27.1	13.8	-	1.8	1.3
College Street	61.9	11.9	26.2	-	-	-
Pentrefelin	48.9	20.7	12.0	1.3	17.0	-
Isle of Man	56.0	9.2	15.5	-	19.1	-
Belle Vue (Road)	31.8	13.5	54.5	-	-	-
Nailor's Yard	60.0	15.0	7.5	-	17.5	-
Thornley Court (Sq)	93.3	6.7	-	-	-	-
Gummow's Court	60.7	16.1	17.9	-	1.8	1.8
Bonk	25.0	58.3	16.7	-	-	-
Tenter's School	-	-	100.0	-	-	-
Bridewell	16.7	16.7	41.6	-	25.0	-

Source: 1851 Census.

Note 1 : Excluding the town of Wrexham.

the centre of Wrexham, several of the main commercial streets also record low scores, including High Street and the adjoining Town Hill and Henblas Street.

The remainder of the streets in the town of Wrexham recorded intermediate component scores in Figure 5.5, but some mention must be made of one interesting street which emerged in sextile 4, Charles Street (marked D on Figure 5.5). In the analysis for 1841, this street had emerged as having a localised enclave of residents originally from Scotland, and in that year some 12.3% of the total population of the street were born in Scotland (Figure 4.7) even though this Scottish-born population formed only 0.6% of the town's total inhabitants (Figure 4.8). This latter percentage was very similar to that for 1851, when 0.8% of Wrexham's population had been born in Scotland (Figure 5.6), a total which numbered only fifty-three in all. However, eleven of this total, 20.8%, lived in Charles Street in 1851, although within the street they formed only 7.4% of the total population (Figure 5.9), a fall of nearly five percent when compared with ten years earlier. This would seem to suggest that some dispersal had occurred amongst this Scottish-born population away from Charles Street over the decade, but alone among the commercial streets, lodging remained an important feature of Charles Street even in 1851 (Figure 5.8). Other streets within which these Scots-born formed an important element were few in number, although Beast Market Court (8.7% of the

court's population), Cutlers Entry (4.3%) and Willow Hill (4.0%), amongst others had very small concentrations (Figure 5.9).

These then are the general characteristics of this second component for 1851. The spatial configuration which resulted, as shown in Figure 5.5 and discussed above, reinforced general conclusions which had emerged from the examination of the results for component one (Figure 5.2). We turn now to a discussion of the pattern which resulted from the third axis of differentiation for 1851.

5.4 Component Three: Lifecycle(1)

The third axis, which accounted for 8.9% of the total variance within the data set, had an eigenvalue of 3.74195, and was essentially concerned with the lifecycle aspect of Wrexham's population in 1851. The highest positive eigenloadings (although all were relatively low) were obtained for the following variables:

0.68059	V.25	% of population aged 0-14 years (3).
0.58428	V.22	Mean household size.
0.44863	V.38	% of T.A.P. in Public and Professional Service.
0.41227	V.4	% of population born in North West England (17).

At the opposite, negative end of the axis, the lowest eigenloadings were obtained by variables which,

in the main, contrasted with those given above, and represented an ageing or older population:

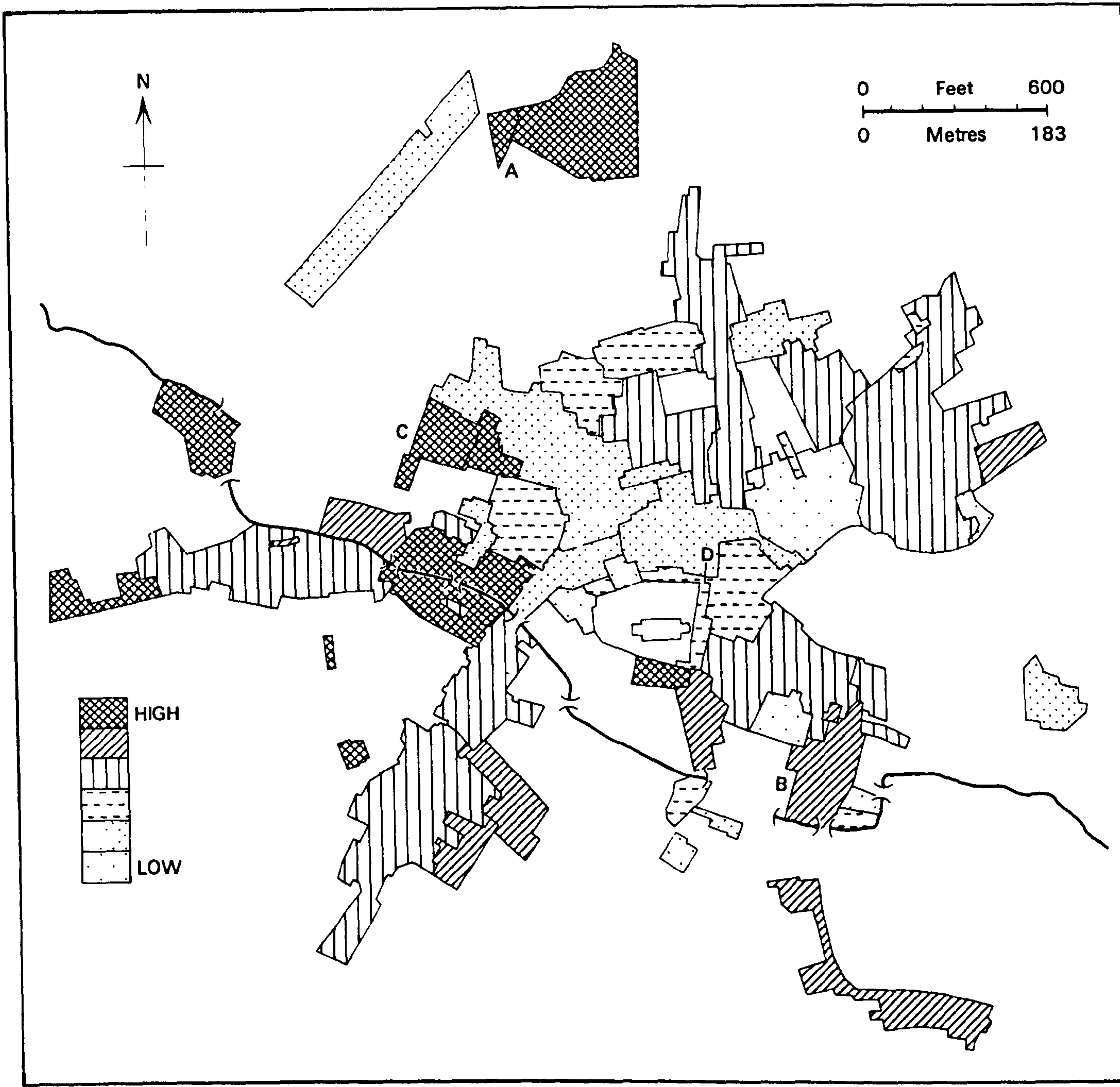
-0.48575	V.27	% of population aged 60+ years.
-0.44498	V.28	Sex Ratio: females/males.
-0.42948	V.23	Mean age of Household Head.
-0.40426	V.26	% of population aged 15-59 years. (3)

Thus, the third axis of differentiation for 1851 was essentially concerned with revealing contrasting areas in terms of lifecycle variables, although there were also other slight influences. Those areas with high component scores on this axis were dominated by young families, with young children, which also influenced the size of the household. At the other extreme, streets with low scores were dominated by an older, established population with fewer children, thereby having smaller families (although not necessarily smaller households) and with some evidence of the importance of women in these areas.

The spatial pattern of component scores obtained by the individual streets on this third component has been mapped in Figure 5.10. Although the pattern is somewhat confused, in general terms, peripheral areas and those streets bordering the river have relatively high scores while the commercial streets at the town centre and those areas of higher status have lower scores.

Figure 5.10

1851 : Component Three : Lifecycle (1).



A Grove Lodge
B Salop Road

C Brynyffynnon
D The Nef

Both schools, Grove Park School and Tenters School, have high component scores on Figure 5.10 (sextile 1) and both have obvious youthful populations. A similar score for Grove Lodge (marked A on Figure 5.10) is less easy to explain but 62.5% of the Lodge's population were born in North West England (Figure 5.9), which probably inflated this particular score. To the west of the town, bordering the river Gwenfro, Brook Street, The Walks and Isle of Man all show high scores on this component, as do Island Green and Belle Vue Road, although Pentrefelin has a more moderate score (sextile 3). In Brook Street, only 12.0% of the population were born in the three English counties of the North West but the population was relatively youthful - 39.2% of its inhabitants were aged between 0 and 14 years (Figure 5.11). Similar proportions of this age group were living in The Walks (35.8%) and Island Green (39.5%) but Pentrefelin, despite its moderate component score also had a relatively youthful population - 35.6% were aged under fifteen years of age (Figure 5.11). For the town overall, a lower proportion of the population were found in this age group; 32.6% of Wrexham's population were returned under the age of fifteen years in the census, compared with 60.1% between the ages of fifteen and fifty-nine years, and 7.3% aged sixty years and over (Figure 5.12). Thus these streets in the western part of the town have younger populations than the town overall, as do other streets with high scores on this third axis.

Figure 5.11
1851: Age of the Population

% of the total population in each street in various age groups.

Street:	0-4 Years	0-14 Years	15-59 Years	60+ Years
Mount Street	9.9	28.2	64.3	7.5
Mount Yard	25.0	25.0	62.5	12.5
Mount House	14.3	14.3	42.9	42.9
Church Hill	14.0	18.7	74.4	7.0
Salop Road	15.4	34.6	56.2	9.2
Stone Masons Yard	12.5	12.5	75.0	12.5
Old Bridewell	37.5	62.5	37.5	-
Tuttle Street	14.7	33.5	63.4	3.1
York Street	9.2	25.9	68.6	5.4
Hafod y Wern	25.0	41.7	58.3	-
Kings Mills	20.5	41.0	56.4	2.6
Wrexham Fechan	11.3	29.6	62.0	8.5
Eagle Street	21.8	41.8	56.4	1.8
Caia Hill	12.5	37.5	62.5	-
Dog Kennel Hill	16.3	39.6	55.8	4.7
Caia	14.3	14.3	85.7	-
Willow Hill	16.0	38.0	52.0	10.0
Madeira Hill	14.3	30.2	60.3	9.5
Barn Field	7.8	26.6	67.2	6.3
Coed y Glyn	-	-	100.0	-
Sontley Hill	-	-	100.0	-
Charles Street	7.4	16.1	75.2	8.7
Jenkin's Entry	33.3	33.3	66.7	-
Cutler's Entry	17.4	41.3	47.8	10.9
Beast Market	13.7	37.0	55.2	7.8
Haye's Entry	17.6	35.2	41.2	23.5
Theatre Lane/Road	-	7.7	69.2	23.1
Crescent Terr/Place	20.6	44.1	52.9	2.9
Beast Market Court	13.0	26.0	52.2	21.7
Seven Bridge Lane	12.4	33.4	58.6	8.1
Spring Lodge	10.5	47.3	42.1	10.5
High Street	8.3	28.3	69.3	2.4
Kenrick Street	13.8	32.8	58.6	8.6
Henblas Street	13.8	46.1	49.2	4.6
Chester Street	9.3	33.2	57.1	9.7
Lambpit Street	12.5	25.6	64.4	10.0
Queen Street	10.7	31.5	59.1	9.4
Holt Street	10.8	25.7	62.8	11.5
Groves School	6.1	63.2	36.7	-
Groves Lodge	12.5	37.5	62.5	-
King Street	5.6	23.2	67.2	9.6
Mold Road	5.3	36.9	60.5	2.6
Ney (Nef)	8.3	33.3	58.3	8.3
Church Yard	16.7	43.8	56.3	-
Cefn y Cwne	6.3	18.8	75.0	6.3
Brook Street	13.6	39.2	55.5	5.4
Vicarage Hill	1.6	14.7	70.5	14.8
Abbot Street	14.4	39.0	52.7	8.4
Town Hill	11.0	29.6	66.1	4.2
Church Street	5.4	18.9	78.4	2.7
Hope Street	8.9	29.4	61.9	8.6
Hope Road	-	-	80.0	20.0
Bryn y Fynnon	14.3	42.9	57.1	-
Priory Street	12.5	25.0	75.0	-

...continued...

Figure 5.11 (continued)
1851: Age of the Population

% of the total population in each street in various age groups.

Street:	0-4 Years	0-14 Years	15-59 Years	60+ Years
Well Street	21.1	42.2	50.0	7.9
The Walks	15.5	35.8	55.4	8.8
Island Green	15.8	39.5	57.9	2.6
Yorkshire Square	15.2	34.7	61.6	3.7
Street Draw	13.5	43.9	50.3	5.8
Erddig Road	-	20.0	80.0	-
Penybryn	11.5	29.7	62.4	8.0
Bridge Street	15.1	37.3	55.6	7.1
College Street	7.1	19.0	66.7	14.3
Pentrefelin	13.3	35.6	56.9	7.4
Isle of Man	11.3	35.4	57.4	7.1
Belle Vue (Road)	18.2	45.5	50.0	4.5
Nailor's Yard	10.0	20.0	67.5	12.5
Thornley Court (Sq)	6.7	20.0	80.0	-
Gummow's Court	12.5	32.1	62.5	5.4
Bonk	16.7	41.7	58.3	-
Tenter's School	-	-	100.0	-
Bridewell	16.7	66.7	33.3	-

Source: 1851 Census.

Figure 5.12
1851: Age Structure of Wrexham.

	Number	%
0 - 14 years	2193	32.6
15- 59 years	4034	60.1
60+ years	487	7.3
Total	6714	100.0

Source: 1851 Census.
Based on total population.

Within the other low status region of the town, the south-eastern sector between the churchyard and the river Gwenfro, there are also some streets with high component scores in Figure 5.10, but at the same time, other streets have moderate or even low scores.

Yorkshire Square, with 34.7% of its inhabitants aged under fifteen years (Figure 5.11), also had a youthful population as did both Tuttle Street (33.5%) and Salop Road (34.6%), (marked B on Figure 5.10). Mount Street and York Street however, had less-youthful populations, as did Mount House and this is reflected in the lower component scores achieved by these areas and shown in Figure 5.10.

The remaining high component scores are recorded by peripheral residential areas such as Erddig Road, Street Draw (both in sextile 2), Priory Street (sextile 1) and Brynyffynnon (marked C on Figure 5.10), where again young families were important among the

inhabitants but where other influences such as birthplace and employment must have also made a contribution. Similar conditions were also found in Crescent Terrace and Wrexham Fechan, both of which also show high component scores on this third axis.

At the other extreme, low component scores are achieved by those streets which have previously emerged as having established populations of older residents. King Street, the early residential development to the north-west of the town which had already emerged as a higher status street by 1841, had a low score on this third component for 1851, as befitted its relatively elderly and predominantly female population. Similarly the main commercial streets at the centre of Wrexham also show low scores in Figure 5.10. Thus, High Street, Town Hill, Hope Street and Kenrick Street all emerge as part of sextile 5 on this third axis, while Charles Street has an even lower score. Along this northern edge of the churchyard, three other areas show very low scores - College Street, Church Street and The Nef (marked D on Figure 5.10). Similar scores were achieved by these areas on the lifecycle component of the analysis for 1841 (see Chapter 4, Figure 4.5) suggesting that over the decade little change had occurred in this aspect of the inhabitants here, despite the decline in status of College Street over the same period.

A general comparison of this lifecycle component for 1851 (component three) as shown in Figure 5.10 with

the similar axis for 1841 (component two) as revealed in Figure 4.5, suggests that the spatial patterns for the two years are relatively similar. Such a comparison is feasible because for both components the majority of the significant variables (both positive and negative) are the same, so that the overall characteristics of the components are very alike, although not exactly the same. Comparing the patterns for the two dates, the pattern for 1851 (Figure 5.10) is much more complex than the spatial configuration for 1841 (Figure 4.5), but even so several features are constant over the decade. The commercial streets and higher status peripheral streets record low component scores in both years while the western riverside area of Wrexham appears to have become more youthful over the decade, the scores for 1851 being much higher for some streets than ten years earlier. This is in direct contrast to the Beast Market region, on the eastern side of Wrexham, which declined in terms of component score over the same period. The other low status area, in the south-eastern sector of the town, also became more youthful between 1841 and 1851 in a similar way to the western region. Despite these variations between the two dates, many of the essential features of Wrexham remained unchanged in terms of this lifecycle component over the period, while many of the features of Figure 5.10 can be directly related to previous components.

5.5 Component Four: Lifecycle (2)

For 1851, this fourth axis accounted for 6.4% of the total variance within the data set, and had an eigenvalue of 2.69731. Eigenloadings on this axis were relatively low but the highest positive loadings are shown below:

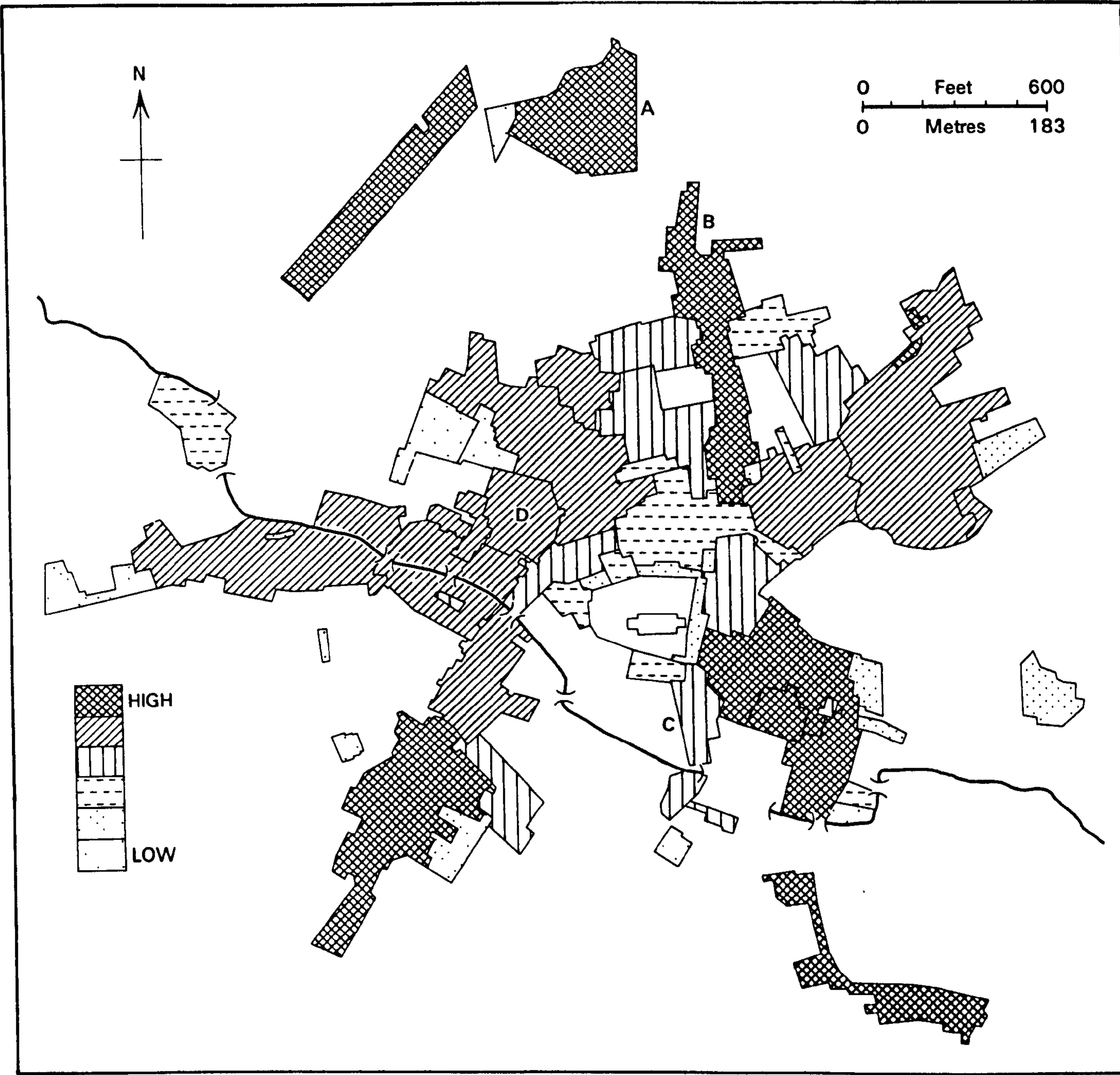
0.60377	V.27	% of population aged 60+ years.
0.45847	V.23	Mean age of Household Head.
0.43653	V.40	% of T.A.P. returned as Independent.
0.41635	V.10	% of population, foreign born.
0.37174	V.21	Households as a % of total households in the town.
0.35433	V.20	Mean number of domestic servants.(3)

These variables would seem to suggest that this axis identifies areas where an elderly, relatively wealthy population is important. The spatial patterning associated with the component scores on this axis is presented in Figure 5.13 and immediately it is apparent that some streets previously shown to be inhabited by wealthy residents emerge with high scores but at the same time, other streets of probable lower socioeconomic status in 1851 also record high scores.

It would seem from the significant variables on this fourth axis, as given above, that the archetypal street of this component would be King Street, and this north-western residential street does indeed show a high component score in Figure 5.13. Similarly, the

Figure 5.13

1851 : Component Four : Lifecycle (2).



A Grove School
B Chester Street

C Tuttle Street
D Abbot Street

nearby Grove School (marked A on Figure 5.13) also records a high score and yet it was already shown on the previous component that the population of the school, as one would expect, was youthful with no resident in the highest age group (Figure 5.11). However, because the school was a boarding school, many of the pupils were not local in origin, whilst domestic servants formed an important aspect of the school's residents. It appears that these two variables in particular resulted in the high component score for Grove School on this axis. In contrast, Tenter's School, the other school enumerated separately in Figure 5.13, shows a very low component score (sextile 6) as one might expect from the previous discussion in this chapter.

Chester Street (marked B on Figure 5.13), the wealthier, partly commercial street which links the true commercial centre of High Street with the northern higher status periphery, also shows a high score in Figure 5.13, which reconfirms it's slightly superior status and also suggests that an important number of it's inhabitants were elderly (Figure 5.11), besides being one of the largest streets in Wrexham. Even in a small town, it is clear that features common to much larger towns of the period were also present. Chester Street is one example of this, in that it was developing as a possible routeway into the commercial core of the town from the growing higher status zone to the north, which would allow these wealthier residents

to undertake the journey without coming into direct contact with the lower classes of Wrexham. Streets with similar functions have been noted elsewhere, in much larger centres than Wrexham.*

Yet, even though this street was of relatively high status in 1851, just behind the facade of Chester Street there were residents of much lower status to be found, and in these back streets similar problems to those more usually thought of as being prevalent in lower status areas were already in existence:

"In Chester-street serious and offensive nuisances arise from enclosed yards, with open drains continually pouring out the contents of privies, wash-houses, pigstyes etc.

The back premises of nearly the whole mass of buildings, constituting a square, bounded by Lambpit-street, Queen-street, Hope-street, Chester-street, and High-street, are generally in a state of filth, creating offensive and hurtful effluvia, and this to a greater degree than could be suspected from the respectable appearances of many of the houses fronting the streets." (18)

Such conditions were not generally expected to be found in these areas and were usually ignored or overlooked by residents of higher status, occupying and using the street fronts.

Streets in both lower status regions of the town, the western riverside location and the south-eastern sector between the churchyard and the river, also record high scores on this fourth axis. In the latter

* eg. Manchester.
see chapter 1.

however, the poorest areas, Tuttle Street (marked C on Figure 5.13) and Yorkshire Square, have more moderate scores and it has already been suggested that these were inhabited by more youthful households with large families, often including several children (Figure 5.11). However, within this same region, Mount Street and Mount House along with Salop Road, all show high scores as does Wrexham Fechan across the river (Figure 5.13). Of this group, both Salop Road and Wrexham Fechan also recorded high scores on the previous, third axis (Figure 5.10) which had suggested that children formed an important element in the social life of these areas. Scores associated with this fourth component however, suggest that perhaps the elderly were also featured in these same districts.

During the nineteenth century and particularly amongst the lower classes, multi-generational households were much more common than is the case today.* Thus it was common for parents, children and grandchildren to live in the same household, there being few alternatives for married children other than moving in with parents or close relatives. Consequently, at this time both elderly and youthful elements of family life could be important within a single household and often a parent retained the position of household head even though he or she was dependent upon a younger family member. It is clear that in Salop Road and Wrexham Fechan there were significant proportions of residents in the elderly age

* see Anderson (1971)

group as well as children (Figure 5.11). However their scores must also have been affected by the sizes of the streets involved. Clearly from Figure 5.13, most of the larger streets (in terms of the highest numbers of households) in the town record the higher component scores on this axis.

Within the western lower status region of the town, a series of streets show high component scores in Figure 5.13 which are consistent with the lower scores on the previous axis which emphasised more youthful populations (Figure 5.10). Other streets with high scores on this fourth axis include several large streets on the edge of the commercial area such as Hope Street and Abbot Street (marked D on Figure 5.13), as well as several areas in the east of the town, in the vicinity of the Beast Market. In 1851, Abbot Street was a very unhealthy street, one of the most unhealthy in the whole town:

"Abbot-street is the most unhealthy street in the town, the annual mortality being 56.2 in the 1,000. In one place a privy and cow-house are placed in a dark room, beneath a dwelling-room with a common boarded floor. Opposite, Harrison's-yard is in a dirty condition, with two offensive privies and six pigstyes." (19)

At the other extreme, low component scores on this fourth, lifecycle axis are recorded by several developing (and therefore still small in 1851) streets

on the periphery of the town and by other small areas scattered throughout the town. Peripheral streets such as Erddig Road, Belle Vue Road and Crescent Terrace were still undergoing development at this date, as were Priory Street and Brynyffynnon, and all record low component scores in Figure 5.13. Intermediate scores are achieved by a group of streets to the north of the churchyard, including some of the main commercial streets of the town, but in general terms, the spatial pattern of component scores associated with this axis (and shown in Figure 5.13) is somewhat confused and less easy to interpret than the previous results for 1851.

The results for the four most important individual components of the Principal Components analysis for 1851 have been presented above. In many respects the results are very similar to those for 1841 (and presented in Chapter 4), although over the intervening decade the town had grown, with the basic street framework becoming more complex. To gain an overall view of Wrexham in 1851, at the level of the street, a Cluster analysis was undertaken on the same data and the results are presented below.

5.6 Cluster Analysis

A Cluster analysis was undertaken on the same data set used in the earlier Principal Components analysis, a data set consisting of the forty-two variables

detailed elsewhere (see Chapter 2, Figure 2.6) and the seventy-two streets identified for the town from the census enumerators' books of 1851 (Figure 5.1). Again the Ward's Error Sum procedure was adopted⁽²⁰⁾ and the dendrogram associated with this analysis may be consulted in Appendix C.

The results of this Cluster analysis for 1851 are presented in Figure 5.14, and again the streets have been grouped at the twelve-cluster stage to enhance the comparability of the results between the different years within this examination of Wrexham. Only ten clusters have been mapped in Figure 5.14 because two clusters fall outside the general environs of the town. Significant T-values can again be used to determine the salient features of each cluster and to aid the interpretation of the character of each cluster.

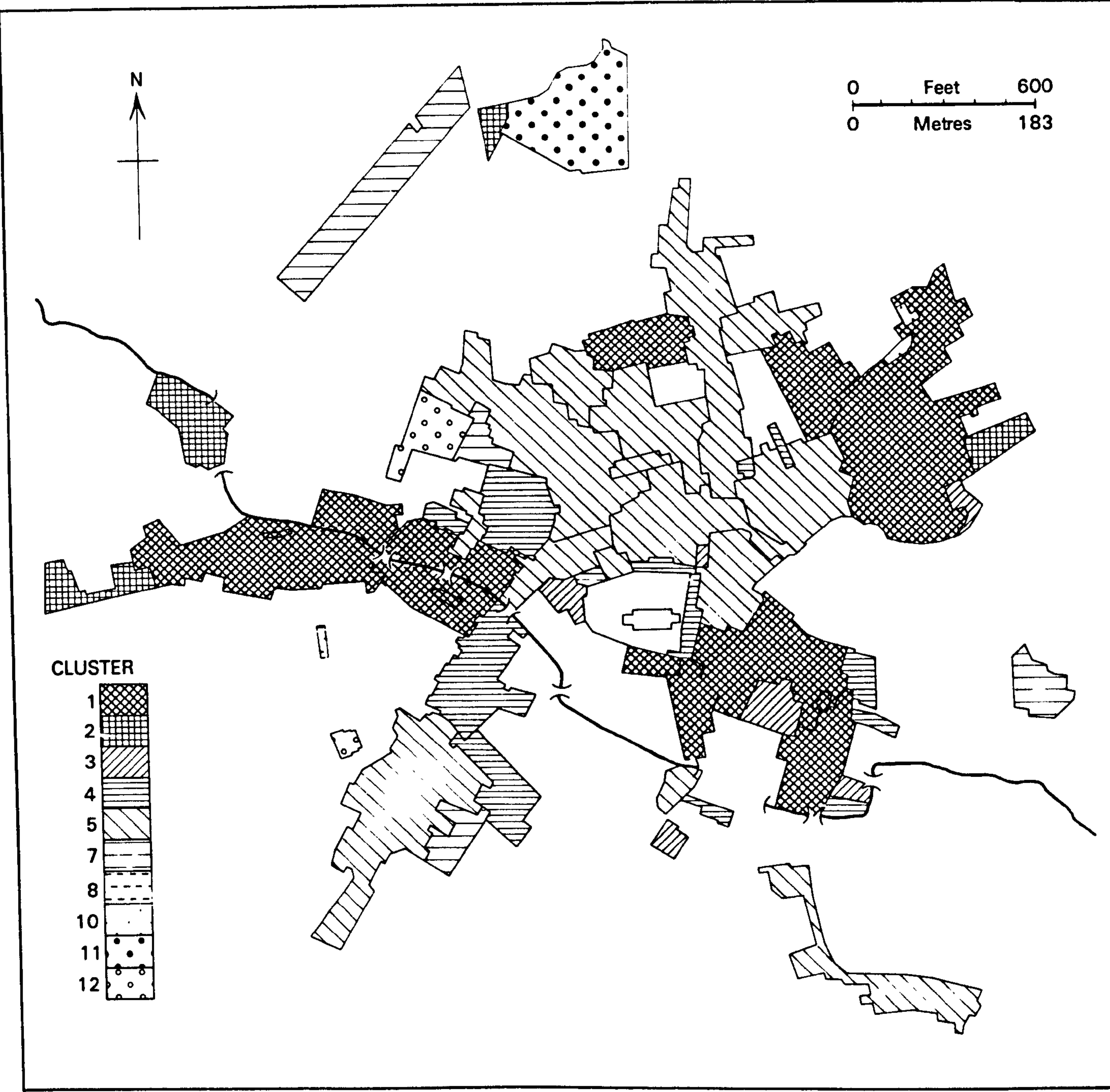
The significant T-values relating to Cluster 1 suggest that this grouping consists of streets in which the lodging of immigrants was important, with the Irish being an important ethnic group:

1.2033	V.18	Mean number of lodgers per household.
0.9809	V.21	Households as % of the total households in the town.
0.8832	V.9	% of population born in Ireland.
0.7842	V.10	% of population foreign born.
0.7775	V.17	% of households with lodgers.

From Figure 5.14 it is clear that this first cluster is generally consistent with the lower status

Figure 5.14

1851 : Cluster Analysis. 12 Cluster Stage.



areas, particularly along the western stretch of the river and to the south-east of the churchyard. The other group of streets included in this cluster centres on the Beast Market in the east, with the adjoining Seven Bridge Lane and nearby Lambpit Street. All these streets were relatively low in status in 1851, as shown by component one (Figure 5.2) and most had a substantial lodging population (Figure 5.8). Most of those streets with high component scores on the second axis for 1851 (Figure 5.5) which included an Irish-born aspect within it (see also Figure 5.9), are also contained in this first cluster, including the predominantly Irish Yorkshire Square and the Isle of Man (an area of Pentrefelin) which was mentioned in the General Board of Health Report as having a substantial Irish population.⁽²¹⁾

In comparison with this first cluster, Cluster 2, as can be seen from Figure 5.14, was much smaller in terms of the number of streets included within it - only four areas comprised this grouping and all had peripheral locations. The significant T-values suggest that this cluster emphasises streets of essentially low status households within which young children play an important role:

1.3962	V.13	% of Household Heads in S.E.G.s 4 and 5.
1.1636	V.29	Fertility Ratio.
0.9640	V.16	% of T.A.P. in S.E.G.s 4 and 5.
0.8345	V.24	% of population aged 0-4 years.
0.7405	V.25	% of population aged 0-14 years.

All four areas in this second grouping recorded high component scores on component three (Figure 5.10) which was concerned with youthful aspects of the family lifecycle and this cluster confirms the importance of children in these areas (see also Figure 5.11). The decline in status of Island Green over the decade 1841-1851, which had previously been suggested, is also confirmed by its inclusion in this lower status grouping. The other three members of the cluster are Belle Vue Road, Crescent Terrace and Grove Lodge.

The member streets of Cluster 3 are scattered throughout the town, although most are found in the south-eastern sector. The significant variables (highest T-values) for this cluster are generally of a confused or mixed character, characteristics which can also be applied to the resulting cluster:

1.3498	V.23	Mean age of Household Head.
0.8737	V.2	% of population born in Denbigh, Flint and Merioneth.
0.5249	v.31	% of widowed, female Household Heads.
0.4151	V.15	% of T.A.P. in S.E.G. 3.

Essentially this cluster comprised streets of intermediate or lower socioeconomic status, although it also included Mount House which was of somewhat higher status. The salient feature of this third cluster was the elderly nature of the household heads, with widowed females being of some importance. Another feature

common to all the streets included in this cluster was the small number of households in each street unit, which would also have some affect on the clustering.

In contrast, many more and larger streets group together to form Cluster 4, although as can be seen from Figure 5.14, they are also somewhat scattered throughout the town. The important variables in this cluster emphasise the working-class nature of the grouping with children again being featured within the households:

1.0927	V.36	% of T.A.P. in Manufacturing.
0.9740	V.15	% of T.A.P. in S.E.G. 3.
0.9573	V.24	% of population aged 0-4 years.
0.9423	V.12	% of Household Heads in S.E.G. 3.
0.7118	V.29	Fertility Ratio.

The predominantly working-class character of most of the streets in this cluster is confirmed if Figure 5.2 is examined, since all have low scores on this first socioeconomic component. Streets found in this cluster include Abbot Street, Well Street, Bridge Street and Street Draw but there is no simple spatial pattern forthcoming for this cluster in Figure 5.14. However streets in this cluster do avoid the previously identified low status areas near the river and the higher status northern periphery.

Cluster 5 comprises a very large area of the centre of Wrexham in 1851 (Figure 5.14). Included here

are most of the commercial streets of the town, to the north of the churchyard, where they form a solid block, but in addition three areas to the south of the river (Wrexham Fechan, Madeira Hill and Penybryn) also form part of this cluster. The significant T-values confirm the commercial character of this cluster and also suggest that an important proportion of residents were not born locally:

0.5192	V.21	Households as % of the total households in the town.
0.4311	V.37	% of T.A.P. in Dealing.
0.4005	V.19	% of households with domestic servants.
0.3599	V.8	% of population born in Scotland.
0.3098	V.7	% of population born in the Rest of England.

At the town centre, particularly along the street fronts, substantial shops and houses were the norm, but even here, conditions in the backstreets and back-premises were no better than elsewhere in the town. Conditions in Town Hill (which was included in this fifth cluster), were described in the Report to the General Board of Health:

"...The front houses at Town-hill let for £20 to £40 per annum, but they have scarcely any back premises, and their cellar-kitchens are subject to land-floods, and always damp. The cesspools from above become flooded with rain-water, and ooze and overflow into the lower premises. The drains are useless...."(22)

Obviously there was great variation between the conditions found at the front and the rear of buildings in Town Hill and other streets in Wrexham's commercial core.

Within this cluster, as in most streets in the town, the majority of the inhabitants were born either in Wrexham itself or in the adjoining Welsh and English counties. However, within these commercial streets, high proportions of the residents had non-local origins (Figure 5.9). It has already been shown that Charles Street was inhabited by a noteworthy proportion of people born in Scotland (7.4%) and similar proportions of the street's residents came from South-east England (7.4%) and the Rest of England (7.3%). The other streets in the commercial core also have small but significant proportions of English-born residents, emphasising a non-Welsh element amongst the shop-keeping population of the town (Figure 5.9).⁽²³⁾

The remaining seven clusters are all relatively small in size. Cluster 6 was composed entirely of a single area, Caia Hill, which did not fall within the bounds of the map of Wrexham and so this unique case does not appear in Figure 5.14. Cluster 7 does appear in the Figure but it comprises only four small areas. The variables with significant T-values suggest that this cluster groups together the high status elite areas within the town:

2.3631	V.11	% of Household Heads in S.E.G.s 1 and 2.
2.3535	V.14	% of T.A.P. in S.E.G.s 1 and 2.
1.9951	V.19	% of households with domestic servants.
1.6499	V.39	% of T.A.P. in Domestic Service.
1.1939	V.26	% of population aged 15-59 years.
0.9722	V.20	Mean number of domestic servants.

Although the four streets in this cluster are generally scattered throughout the town, all show a bias towards peripheral locations (Figure 5.14). Included in this cluster is King Street, the first purely residential street to be developed in Wrexham (in 1836), which has already emerged as being of superior status in 1851 (see Figure 5.2). The other members are The Caia farm, in the east, and Erddig Road (to the south) and Priory Street, both of which were still in an early phase of development at this date.

The next grouping, Cluster 8 is again composed entirely of one unique case - Tenter's School. The significant variables are somewhat confused, illustrating the uniqueness of the school when compared with the rest of the town:

4.2236	V.4	% of population born in North West England (24).
2.9097	V.26	% of population aged 15-59 years.
2.6777	V.39	% of T.A.P. in Domestic Service.
1.7456	V.16	% of T.A.P. in S.E.G.s 4 and 5.

The main feature of the school seems to have been the non-local, English origin of all of the residents (Figure 5.9).

Cluster 9, again composed entirely of a single unique case, Sontley Hill, was omitted from Figure 5.14 because it is located some distance away from the town. Cluster 10 is shown in Figure 5.14, but it occupies only a very small area, consisting of two small courts in the Beast Market - Haye's Entry and Beast Market Court. The significant variables for this cluster suggest that the residents of the courts were of lower socioeconomic status, while paupers were a feature:

5.0684	V.42	% of T.A.P. returned as Paupers.
2.4601	V.35	% of T.A.P. in Transport and Building.
2.2195	V.27	% of population aged 60+ years.
1.5832	V.13	% of Household Heads in S.E.G.s 4 and 5.
1.5405	V.16	% of T.A.P. in S.E.G.s 4 and 5.
1.2662	V.1	% of population born in Wrexham.
1.2631	V.17	% of households with lodgers.

Cluster 11 also consists entirely of one unique area within the town - Grove School. It had already become clear from the 1841 analysis (Chapter 4) that this boarding school was atypical, and this is again confirmed by this second examination for 1851. The final cluster, Cluster 12, also occupies only a small area in Figure 5.14, being composed entirely of two small districts - Brynyffynnon and the Bridewell. The significant variables relating to this last cluster are again confused and it is difficult to determine the salient features of the grouping:

5.0747	V.41	% of T.A.P. who are engaged as Labourers.
2.1933	V.38	% of T.A.P. in Public and Professional Service.
1.8789	V.25	% of population aged 0-14 years.
0.9749	V.12	% of Household Heads in S.E.G. 3.

Looking at the general spatial pattern for the town of Wrexham in 1851, as shown in Figure 5.14, it is clear that many features which were present in 1841 (Figure 4.12) have endured over the intervening decade. Thus the town still retained some features associated with the classical pattern of the so-called "pre-industrial" town. Even at this date, in the middle of the century, many of the wealthier inhabitants of the town, particularly those engaged in commercial activities, still lived in the commercial district at the town's centre, although the embryonic high status, elite area at the town's periphery had been retained over the decade.

In contrast, the lower status populations of Wrexham were still concentrated towards the outskirts of the town, although the physical dimensions of the town's site affected their location and by 1851 they had become concentrated in three distinct areas. Thus the low-lying areas near the river continued, in 1851, to be inhabited by lower-status individuals whilst others inhabited a region in the east of the town in the vicinity of the Beast Market, an activity which would also deter higher status residents. However, the obvious working-class ring surrounding the commercial

core in 1841 (Figure 4.12) had been broken down by 1851, by the extension of the commercial grouping (cluster five) northwards, the decline in status of the Beast Market area and the consolidation of the riverside lower-status areas in the west and the south-east.

As can be seen from Figure 5.14, the socio-spatial structure of the town in 1851 was still relatively simple with only two or three large clusters dominating the pattern. This was certainly due to the small size of the town and indeed seven of the clusters (clusters six to twelve) involved only a small number of streets in total, thereby emphasising the unique nature of some areas within the town. Thus, even in 1851, several features of the pre-industrial town were still apparent in Wrexham although signs of an emerging post-industrial structure were evident, including the high status area to the north-west and further developments to the south of the river and on the periphery.

The succeeding decade, 1851-1861, was to prove to be an important period for Wrexham. During this period the town not only underwent some physical growth but in 1857 it also attained the status of a chartered borough, thereby increasing its importance as a town. In the following chapter, we turn to examine the results from the analysis of censal data for 1861, to determine how the developments over the intervening decade influenced the town's socio-spatial structure.

5.7 Notes

1. James Edisbury, Bersham, November 1850. Published in *The Wrexham Advertiser*, December 1850. The National Library of Wales, Aberystwyth.
2. Beresford, M. (1963) "The Unprinted Census Returns of 1841, 1851 and 1861 for England and Wales", *Amateur Historian*, Vol.5(8), p.260-269. See also contributions in the following: Wrigley, E.A. (Ed.), (1972) *Nineteenth-century Society. Essays in the Use of Quantitative Methods for the Study of Social Data*, Cambridge University Press, Cambridge. Lawton, R. (Ed.), (1978) *The Census and Social Structure. An Interpretative Guide to Nineteenth Century Censuses for England and Wales*, Cass, London.
3. For the full list of variables included in the analysis, see Chapter 2, Figure 2.6.
4. The resulting component scores for each of the first four components were grouped into sextiles around the median in order to simplify the spatial presentation of the results.
5. The sale notice of the property appeared in *The Wrexham Advertiser* in December, 1850. The National Library of Wales, Aberystwyth.
6. Extract from "A Letter From a Wrexhamite", published in *The Wrexham Advertiser* in October, 1850. The National Library of Wales, Aberystwyth.

7. Letter from R. Humphreys Jones of Willow House, published in The Wrexham Advertiser, January 1st 1852. The National Library of Wales, Aberystwyth.
8. Register of Electors of the Borough of Denbigh, 1850. Entry for the town of Wrexham. Clwyd County Record Office, Ruthin.
9. In these streets, the entries in the Register were often for "house and shop" rather than for "house" alone.
10. "Lodger families" may be defined as the case where an individual enumerated as a lodger in a household was accompanied by a wife/husband and/or children; i.e. where a whole family was lodging with another household.
11. As well as more general references see the following: Pooley, C.G. (1977) "The Residential Segregation of Migrant Communities in Mid-Victorian Liverpool", Transactions of the Institute of British Geographers, Vol.2(3), p.364-382. Lees, L.H. (1969) "Patterns of Lower-class Life: Irish Slum Communities in Nineteenth-century London", In Thernstrom, S. and Sennett, S. (Eds.), Nineteenth-century Cities: Essays in the New Urban History, Yale University Press, p.359-385.
12. Drake, M. (1972) "The Census 1801-1891", In Wrigley, E.A. (Ed.), (1972) op.cit. p.7-46.

13. Taken together, these four streets now accounted for some 33.5% of the total Irish-born population of Wrexham.
14. The sale notice appeared in The Wrexham Advertiser in December 1850. The National Library of Wales, Aberystwyth.
15. Clark, G.T. (1850) Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage and Supply of Water and the Sanitary Condition of the Inhabitants of the Town, Borough or Place of Wrexham, National Library of Wales, Microfiche Card 211, No.392, Page 12, Paragraph 35.
16. Extract from an article entitled, "Model Cottages for The Poor", and published in The Wrexham Advertiser, April 18th 1857. The National Library of Wales, Aberystwyth.
17. In this context, "North West England" comprises Cheshire, Lancashire and Shropshire.
18. Clark, G.T. (1850) op.cit. page 11, paragraph 31.
19. Clark, G.T. (1850) op.cit. page 14, paragraph 42.
20. Ward, J.H. (1963) "Hierarchical Grouping to Optimize an Objective Function", The Journal of the American Statistical Association, Vol.58, p.236-244. For an introduction to Cluster analysis see: Dollar, C.M. and Jensen, R.J. (1971) Historians Guide to Statistics, New York, particularly Chapter 6.
21. Clark, G.T. (1850) op.cit. page 12, paragraph 35.

22. Clark, G.T. (1850) op.cit. page 13, paragraph 41.
23. Full details of the recoding of birthplace data for 1851 (1861 and 1871) are given in Chapter 2, Figure 2.2. The groupings given in Figure 5.9 are a simplified version of this classification.
24. "North West England" is composed of the counties of Cheshire, Lancashire and Shropshire.

CHAPTER 6

WREXHAM IN 1861

6.1 Introduction

"Twelve miles along the line leading from Chester to Shrewsbury and snugly sheltered by the Welsh hills, the rambler from the "North Countree" finds a five-year old borough of some 7,000 inhabitants,.... The town is note-worthy in many respects. Besides being the most populous town of North Wales, it is situate within an easy distance of many busy mining villages, whose people flock to its fairs and markets in legions, the women being clad in woollen bed-gowns, striped petticoats, and coal-scuttle bonnets, which are not injured by the indispensable basket, and following at a respectful distance the footsteps of their spouses, chattering meanwhile in a language so prolific of guttur'als, that its appearance when printed at once induces a plain, blunt Saxon to declare it unmouthable.."(1)

From the above it would seem that the importance of Wrexham as a commercial centre was very evident to visitors at the beginning of the next decade, the 1860s. Despite the apparent Welshness of the surrounding populations, parts of the town itself remained predominantly English while the March Fair continued to attract both Welsh and English visitors over long distances. To examine more fully the nature of the town at this period, we now turn to an analysis of the 1861 census.

It has already been stated that the surviving census returns for 1861 were not complete for Wrexham, due essentially to problems encountered in the storage of the material. The available microfilm copy provided details of some 6,668 individuals for the year of 1861, compared with a total of 6,714 for the complete census of ten years earlier.⁽²⁾ Although some entries for 1861 were obviously missing, all the available data were analysed in a similar fashion to those relating to the other censal years, details of which are given in Chapter 2. One hundred and twenty street units were identified from the census records for 1861 (Figure 6.1) and the total data set comprised these street units⁽³⁾ and the forty-two variables given earlier (Figure 2.6).

This data set was initially subjected to a Principal Components analysis⁽⁴⁾ and subsequently to a Cluster analysis, using the Ward's Error Sum procedure.⁽⁵⁾ The results from both analyses will be presented below, beginning with the Principal Components results. Again the first four components to emerge will be detailed to maintain comparability with the results from the other censal analyses.

6.2 Component One: Socioeconomic Status (i)

The first axis of differentiation to emerge from the analysis for 1861 had an eigenvalue of 5.83672 but accounted for a relatively low 13.9% of the total

Figure 6.1

1861: Street units identified from the census
(total of 120)

Mount Street	Jones Square, Mount Street
Mount House	Alcocks Court, Mount Street
Church Hill	Williams Court, Mount Street
Salop Road	Jones Court, Tuttle Street
Tuttle Street	Havelock Square
Yorke Street	Gibbons Court, Salop Road
Hafod y Wern	Alma Terrace
Kings Mills	Salisbury Park
Wrexham Fechan	Willow Road
Eagle Street	Mount Pleasant
Dog Kennel Hill	Smiths Court, Charles Street
Caia	Albert Place
Madeira Hill	Roberts Court, Beast Market
Barnfield	Farndon Street
Coed y Glynn	Harrisons Court, Farndon Street
Sontley Hill	Victoria Place, Farndon Street
Charles Street	Kenricks Row
Cutler's Entry	Holt Court
Beast Market	Coopers Row
Theatre Lane	Hankers Yard
Crescent Terrace	Harrisons Court, Chester Street
High Street	Grove Road
Kenrick Street	Rhosddu Road
Henblas Street	Jones Court, Hope Street
Chester Street	Brades Court, Hope Street
Lampit Street	Regent Street
Queen Street	Military Depot, Regent Street
Holt Street	Roxburgh Place
King Street	Hill Street
Mold Road	Egerton Street
Brook Street	Harrisons Court, Abbot Street
Vicarage Hill	Cannon Court, Abbot Street
Abbot Street	Well Court, Abbot Street
Town Hill	Jones Court, Brook Street
Church Street	Well Court, The Walks
Hope Street	Brewery Place
Bryn y Fynnon	Edwards Square
Priory Street	Tuttle Square, Tuttle Street
Well Street	Bates Square, Tuttle Street
The Walks	Foundry Road
Island Green	Poplar Road
Erddig Road	Chapel Street
Penybryn	Ruabon Road
Bridge Street	Prospect Square
College Street	Clarkes Yard, Bridge Street
Pentrefelin	Victoria Place, Bridge Street
Isle of Man	Horn's Yard, Bridge Street
Belle Vue	College Court, College Street
Thornley Square	Stokes Court, Penybryn
Tenter's School	Tenters Square
Bridewell	Jones Yard, Bridge Street
Owens Court, Beast Market	Edwards Court, Bridge Street
Prices Court, Holt Street	Mary Ann Square
Welsh Entry, Queen Street	Jones Court, Pentrefelin
Bear Court, Yorke Street	Chapel Square, Pentrefelin
Hughes Court, Yorke Street	Castle Square, Isle of Man
Bithells Court, Yorke Street	Pearces Square, Isle of Man
Mount Place, Mount Street	Davies Court, Isle of Man
Jones Court, Mount Street	Butlers Court
Browns Court, Mount Street	Hughes Court

Source: 1861 Census.

variance in the data set. Examination of the eigenloadings associated with individual variables on this first component, suggests that it was essentially concerned with socioeconomic status, with streets displaying high component scores being areas of higher status:

Eigenloading	Variable Number and Title ⁽⁶⁾	
0.80644	V.19	% of households with domestic servants.
0.76097	V.11	% of Household Heads in Socioeconomic Groups (S.E.G.s) 1 and 2.
0.73466	V.20	Mean number of domestic servants.
0.72468	V.14	% of Total Adult Population (T.A.P.) in S.E.G.s 1 and 2.

Thus streets with high component scores on this axis were areas dominated by higher status households where domestic servants were important. At the other extreme, streets with low component scores were often dominated by households of lower socioeconomic status where inhabitants could be of Irish origin, but more importantly such households were enlarged by young children:

-0.56717	V.29	Fertility Ratio.
-0.53836	V.13	% of Household Heads in S.E.G.s 4 and 5.
-0.47442	V.25	% of total population aged 0-14 years.
-0.44614	V.24	% of total population aged 0-4 years.
-0.44063	V.9	% of the population born in Ireland. (6)

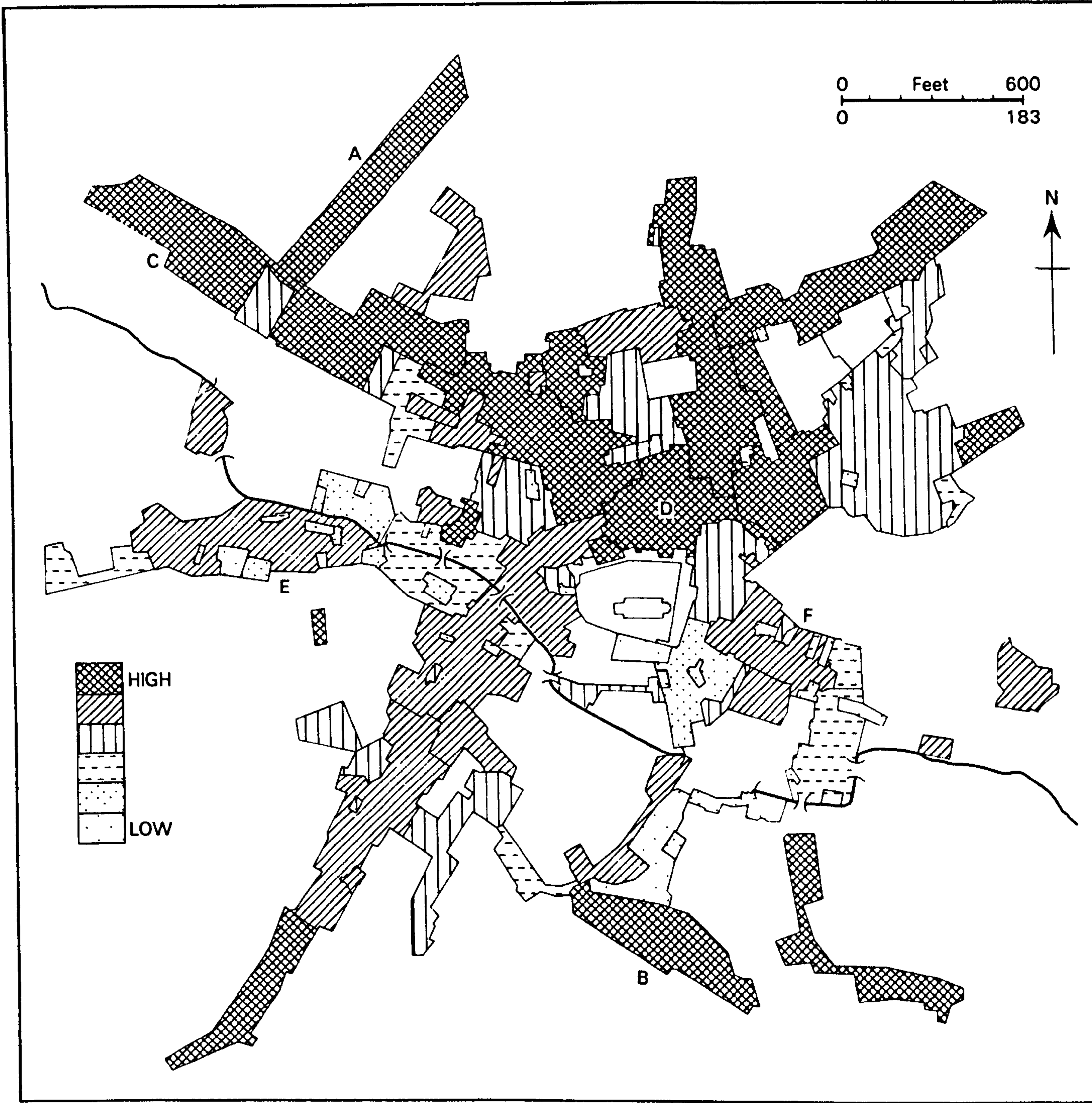
The component scores associated with this first axis were again grouped into sextiles around the median to improve the spatial presentation and the results are shown in Figure 6.2. From Figure 6.2, it is immediately clear that there is a large grouping of streets with high scores (sextile 1) directly to the north of the churchyard and extending to the town's northern periphery. Other very high scores occur on the southern boundary of the town.

Included in the highest sextile are both King Street (marked A on Figure 6.2) and the main commercial streets of the town such as Hope Street, High Street (marked D on Figure 6.2), Charles Street and Chester Road. It has already been shown that the development of King Street represents the first movement of the wealthier section of Wrexham's population out to the periphery⁽⁷⁾ and this street had obviously maintained its superiority at least until 1861. On the southern fringe, the new development of Salisbury Park (marked B on Figure 6.2) represents a later extension of this outward movement.

The granting of a charter of borough status for Wrexham in 1857, initiated many improvements throughout the town, both by individuals and official bodies and many projects were reported in the local newspapers of the period. Most improvements were undertaken in the commercial area of central Wrexham, such as the

Figure 6.2

1861 : Component One : Socioeconomic Status (i).



A King Street
B Salisbury Park
C Regent Street

D High Street
E Pentrefelin
F Mount Street

erection of new shop fronts and the macadamising of roads. But, in addition, new building was particularly noticeable in the north-west sector of the town, where the higher status Regent Street (marked C on Figure 6.2) was developed to link the already established residential King Street with the rest of the town:

"Improvements (in Hope Street and Regent Street) are not by any means confined to the erection of public buildings and places of worship. Private residences and shops are springing up as if by magic in every part of the 'West End', proving to a demonstration that the 'town and trade of Wrexham' are in a very healthy and flourishing condition.... In addition to the handsome mansions already raised in Park-road (Grove Park) another building has now been commenced, which, if they be continued, will in a short time far out-rival those in King Street, both in number and appearance. But the improvements we are glad to say are not confined altogether to the erection of new buildings for retired tradesmen and the more opulent of the middle classes."(8)

Obviously this north-western region of the town was maintaining its role at the forefront of urban development and at the same time, its superior status. In the years following 1861, more building was undertaken in Grove Park where several roads were eventually laid out. As can be seen by their absence from Figure 6.2, both Grove School and Grove Lodge were not included in the analysis for 1861 due to the lack of available (surviving) data.

Elsewhere in this higher status sextile, commercial streets such as High Street (marked D on Figure 6.2) were also being improved at this time (the late 1850s) in readiness for the designation of the town as a borough. Again newspapers carried reports of these improvements and they provide important insights into town life of the period:

"Improvements of every kind are being fast proceeded with in Wrexham, as if the inhabitants are bent on putting their houses and streets in apple-pie order, to gracefully welcome the charter of incorporation when it arrives. Buildings are springing up like mushrooms in Regent-street, which promises ere long to almost rival its fashionable namesake in London, and the tradesmen in High-street, Charles-street and Chester-street are determined, it would seem, not to be left behind by their rivals in Hope-street... But the most conspicuous and pleasing alterations are those which have been made in the shop fronts... The old shabby-looking shop fronts have been removed and replaced by new ones, and splendid new windows of plate glass have also been added... Besides these signs of a prosperous trade, there are others in Charles-street of a similar character. The "new buildings" recently erected there, are amongst the finest and most showy in the town, and form quite a contrast to their more modest and unpretending neighbours. In short, Wrexham is undergoing a complete metamorphosis, and in a short time it will be, instead of the "dirtiest town in North Wales", the most handsome and healthy, and will possess veritable claims to be considered the metropolis of North Wales..."(9)

Thus over the preceding decade (1851-1861) in particular, the face of Wrexham changed quite

dramatically, at least superficially and especially in the main commercial streets. Obviously these improvements had, by 1861, raised the status of several streets within the town, including many of those comprising the highest sextile in Figure 6.2, particularly when compared with ten years earlier (see Figure 5.2). In fact, when compared with the earlier analyses (for 1841 and 1851), the pattern seen in Figure 6.2 has clearly developed from the spatial patterns associated with the similar socioeconomic status axes which emerged for both 1841 (Figure 4.2) and 1851 (Figure 5.2). Over this period, the higher status streets have become consolidated into a more contiguous grouping to the north of the churchyard, extending towards the north-western periphery of newer developments and incorporating the main commercial streets. Apart from this large, almost continuous grouping of high component scores in the north of Wrexham, three peripheral locations on the southern extremity of the town also record very high scores in Figure 6.2. Of the three, Salisbury Park (marked B on Figure 6.2) represents the only entirely new development over the previous decade, one aimed primarily at the middle-classes.

Initially, these new developments and improvements met with favourable responses from the inhabitants of the town, but very soon reservations about the nature of the changes began to appear in the newspapers:

"We observe that the diversity of style which has become such a prominent feature in the architecture of Upper Hope-street (Regent Street) is about to be further increased by the erection of another house, which will differ from all its predecessors in design, position and dimensions... We fear the size of this new dwelling will by no means add to the beauty of this rising locality, especially as it is in such close proximity to the beautiful villa residences erected by Mr. D. Edwards... It is much to be regretted that we have no local power by means of which we might be able to secure some degree of uniformity in the numerous erections now rearing their heads in the north-west part of the town." (10)

Thus, already some members of the community were concerned about the lack of planning restrictions and legislation in Wrexham, but buildings continued to sprout up on the edge of the town, with the builders showing little concern for the overall effect. Such concern was not a new feature of the town. Even earlier in the 1850s, discussion in the local newspapers had centered on the problems of large-scale building and the use of covenants, which were one way to restrict the use of unwanted building practises. Even King Street did not escape the criticism:

"The general activity which prevails on the North-west side of the town in the building trade at present,.... imparts to that part of the town an appearance somewhat resembling the half-built streets of Birkenhead. It is much regretted that no arrangement can be come to amongst purchasers of building sites so as to secure some degree of uniformity in the laying out of new

streets, now that so much of that kind of work is in prospect... King Street is an example of a good opportunity of forming a nice street being entirely thrown away. Had there been certain restrictions agreed upon in the beginning... it would by this time have rivalled some of the more aristocratic streets of Liverpool... The opening lately made in the Grove's Park presents all the appearances of being, one day, a fine street. Terminating in two pleasant public roads, having a warm, southern aspect the way the houses are intended to be built, and being within such an agreeable distance of the town, are features which cannot fail to recommend themselves to parties who are in a position to build the class of houses required by the conditions of sale. We believe the restrictions are somewhat stringent, but they will serve to keep the locality select." (11)

Away from the elite streets of north-west Wrexham and returning to a discussion of Figure 6.2, there are two potential surprises to be found. Both Pentrefelin (marked E on Figure 6.2) and Mount Street (marked F on Figure 6.2), which had previously been areas occupied by households of lower socioeconomic status, emerge in 1861 with relatively high scores (sextile 2) on this first component.⁽¹²⁾ It is possible that part of this improvement at least, could be fictional, a product of the data set itself. Indeed, the increased number of small courts included in the data set as separate street units for 1861, may have had some effect on the analysis, perhaps biasing the larger streets towards higher component scores.

However, if the original data are consulted, in 1861 households in these two areas were essentially of

Figure 6.3
1861: Socioeconomic Status

% of Household Heads in each street classed in socioeconomic groups:

Street:	1 & 2	3	4 & 5
Mount Street	13.1	63.0	19.7
Mount House	-	100.0	-
Church Hill	-	66.7	33.3
Salop Road	3.1	59.4	31.2
Tuttle Street	-	42.9	51.4
Yorke Street	-	84.6	15.4
Hafod y Wern	100.0	-	-
Kings Mills	12.5	12.5	75.0
Wrexham Fechan	30.8	41.0	15.5
Eagle Street	-	81.3	6.3
Dog Kennel Hill	-	-	100.0
Caia	-	50.0	-
Madeira Hill	33.3	44.4	11.1
Barnfield	-	11.1	83.4
Coed y Glynn	-	50.0	50.0
Sontley Hill	-	33.3	66.7
Charles Street	18.6	70.4	7.4
Cutler's Entry	-	40.0	46.7
Beast Market	10.7	50.0	28.6
Theatre Lane	20.0	20.0	60.0
Crescent Terrace	30.8	30.8	-
High Street	23.1	76.9	-
Kenrick Street	11.1	66.8	11.1
Henblas Street	7.1	64.3	21.4
Chester Street	30.8	53.8	15.5
Lampit Street	12.5	57.5	27.5
Queen Street	23.9	66.7	4.8
Holt Street	27.3	54.6	18.2
King Street	52.4	28.7	-
Mold Road	50.0	-	50.0
Brook Street	3.0	66.7	24.3
Vicarage Hill	25.0	50.0	-
Abbot Street	-	72.0	28.0
Town Hill	25.0	75.0	-
Church Street	-	100.0	-
Hope Street	16.8	66.7	13.3
Bryn y Fynnon	25.0	50.0	25.0
Priory Street	50.0	-	50.0
Well Street	37.5	25.0	37.5
The Walks	11.1	44.4	22.2
Island Green	-	100.0	-
Erddig Road	-	55.0	35.0
Penybryn	17.9	69.2	7.7
Bridge Street	9.1	72.7	18.3
College Street	11.1	66.8	11.1
Pentrefelin	12.1	57.6	21.3
Isle of Man	-	50.0	44.4
Belle Vue (Road)	-	34.3	57.2
Thornley Square	-	83.3	16.7
Tenter's School	100.0	-	-
Bridewell	-	100.0	-
Owens Court, Beast Mkt,	-	40.0	60.0
Prices Court, Holt St.	-	20.0	80.0

...continued...

Figure 6.3 (continued)
1861: Socioeconomic Status

% of Household Heads in each street classed in socioeconomic groups:

Street:	1 & 2	3	4 & 5
Welsh Entry, Queen St.	-	50.0	50.0
Bear Court, Yorke St.	33.3	33.3	33.3
Hughes Court, Yorke St.	-	33.3	33.3
Bithells Court, Yorke St.	-	-	100.0
Mount Place, Mount St.	-	50.0	50.0
Jones Court, Mount St.	-	100.0	-
Browns Court, Mount St.	-	50.0	50.0
Jones Square, Mount St.	-	50.0	50.0
Alcocks Court, Mount St.	-	42.9	57.1
Williams Court, Mount St.	-	66.7	33.3
Jones Court, Tuttle St.	-	50.0	50.0
Havelock Square	12.5	62.5	25.0
Gibbons Court, Salop Rd.	-	33.3	66.7
Alma Terrace	-	100.0	-
Salisbury Park	25.0	50.0	-
Willow Road	8.3	58.3	33.3
Mount Pleasant	-	61.5	30.8
Smiths Court, Charles St.	-	-	66.7
Albert Place	-	80.0	20.0
Roberts Court, Beast Mkt.	-	83.3	16.7
Farndon Street	-	64.7	23.5
Harrisons Court, Farndon St.	-	57.2	28.6
Victoria Place, Farndon St.	-	55.6	44.4
Kenricks Row	-	75.0	-
Holt Court	-	50.0	50.0
Coopers Row	30.0	40.0	30.0
Hankers Yard	-	-	100.0
Harrisons Court, Chester St.	-	25.0	50.0
Grove Road	60.0	40.0	-
Rhosddu Road	-	100.0	-
Jones Court, Hope St.	-	100.0	-
Brades Court, Hope St.	-	50.0	33.3
Regent Street	44.0	44.0	-
Military Depot, Regent St.	14.3	71.4	-
Roxburgh Place	9.1	81.8	9.1
Hill Street	16.7	33.3	33.3
Egerton Street	-	33.3	66.7
Harrisons Court, Abbot St.	12.5	50.0	37.5
Cannon Court, Abbot St.	-	-	100.0
Well Court, Abbot St.	-	-	100.0
Jones Court, Brook St.	-	-	100.0
Well Court, The Walks	-	-	83.3
Brewery Place	9.1	27.3	54.6
Edwards Square	-	21.4	64.2
Yorkshire Square, Tuttle St.	-	29.6	70.4
Bates Square, Tuttle St.	-	25.0	25.0
Foundry Road	-	-	100.0
Poplar Road	9.1	18.2	72.7
Chapel Street	14.3	57.1	28.6
Ruabon Road	40.0	40.0	20.0
Prospect Square	-	33.3	66.7
Clarks Yard, Bridge St.	-	-	100.0
Victoria Place, Bridge St.	-	25.0	75.0

...continued....

Figure 6.3 (continued)
1861: Socioeconomic Status

% of Household Heads in each street classed in socioeconomic groups:

Street:	1 & 2	3	4 & 5
Horn's Yard, Bridge St.	-	100.0	-
College Court, College St.	-	40.0	60.0
Stokes Court, Penybryn	-	-	100.0
Tenters Square	-	33.3	66.7
Jones Yard, Bridge St.	-	66.7	33.3
Edwards Court, Bridge St.	-	33.3	66.7
Mary Ann Square	-	57.1	33.3
Jones Court, Pentrefelin	-	40.0	40.0
Chapel Square, Pentrefelin	-	7.7	84.6
Castle Square, Isle of Man	-	66.7	33.3
Pearces Square, Isle of Man	-	31.3	68.7
Davies Court, Isle of Man	-	22.2	66.7
Butlers Court	-	-	100.0
Hughes Court	-	66.7	-

Source: 1861 Census.

working-class status (Figure 6.3). But if these data are then compared with those for the earlier years (1841 and 1851), it is clear that some improvement in socioeconomic status has occurred over the twenty years (Figure 6.4).

Figure 6.4
Socioeconomic Status in Mount Street and Pentrefelin, 1841-1861.(13)

	S.E.G.	1841	1851	1861
Mount Street	1/2	11.3	15.38	13.1
	3	62.9	71.15	63.0
	4/5	21.0	13.46	19.7
Pentrefelin	1/2	7.7	6.33	12.1
	3	41.8	53.16	57.6
	4/5	42.9	35.44	21.3

All numbers are percentages.

From Figure 6.4 it can be seen that over the period, Mount Street has undergone an improvement in terms of socioeconomic status, followed by something of a decline over the second decade (1851-1861). Pentrefelin however, has maintained a steady improvement throughout the whole period. Despite these developments, both areas in 1861 still retained a relatively moderate status within the town, and both still contained quite large proportions of lower status households.

In contrast to those streets recording high scores in Figure 6.2, streets with low component scores are scattered throughout the town. From the lowest (highest negative) eigenloadings associated with this first component, it is clear that such streets were inhabited by households of lower socioeconomic status, but more importantly these households were dominated by young children. Many streets which were characterised by lower status populations in both 1841 (Figure 4.2) and 1851 (Figure 5.2), again emerge as such in Figure 6.2, including The Walks, Yorkshire Square, Tuttle Street and numerous small courts. In the south-east of the town, both Willow Road and The Barnfield also emerge with low scores on this axis for 1861.

Comparison of Figure 6.2 with the figures corresponding to the socioeconomic status components for 1841 (Figure 4.2) and 1851 (Figure 5.2) reveals that the pattern produced by the data for 1861 is much more confused and more difficult to explain than its predecessors. This is in part due to the comparative weakness of this first component for 1861 which only explained some 13.9% of the total variance within the data set. This proportion was much lower than that explained by the corresponding components for 1841 (24.5%) and 1851 (18.6%), whilst for 1861 the emergence of a clear socioeconomic status component, differentiating between areas of low and high status, does not really occur.

Although this first axis for 1861 might be termed a "socioeconomic status" component, other variables are also significant, including some concerned with the lifecycle aspects of the household and the ethnic origins of household members. At the same time, the second component to emerge for 1861, which will be discussed below, is also essentially concerned with the socioeconomic status of different street populations, differentiating between working-class and lower status households. Thus it would seem that the distinct socioeconomic status component which emerged in both 1841 and 1851 has been broken down into two separate components in the 1861 analysis, each component being concerned with different aspects of socioeconomic status within the town. Thus, examination of the pattern of component scores derived from this second axis for 1861 may further our understanding of the results of component one; it is to this second axis of differentiation that we now turn.

6.3 Component Two: Socioeconomic Status (ii)

This analysis for 1861 produced a second component with an eigenvalue of 5.18482, which explained 12.3% of the total variance in the data set. The highest eigenloadings again indicate that this axis of differentiation concentrates on socioeconomic status:

0.78370	V.15	% of T.A.P. in S.E.G. 3.
0.73651	V.12	% of Household Heads in S.E.G. 3.
0.58740	V.36	% of T.A.P. in Manufacturing. (6)

At the other extreme, variables with the highest negative eigenloadings emphasise households of lower status:

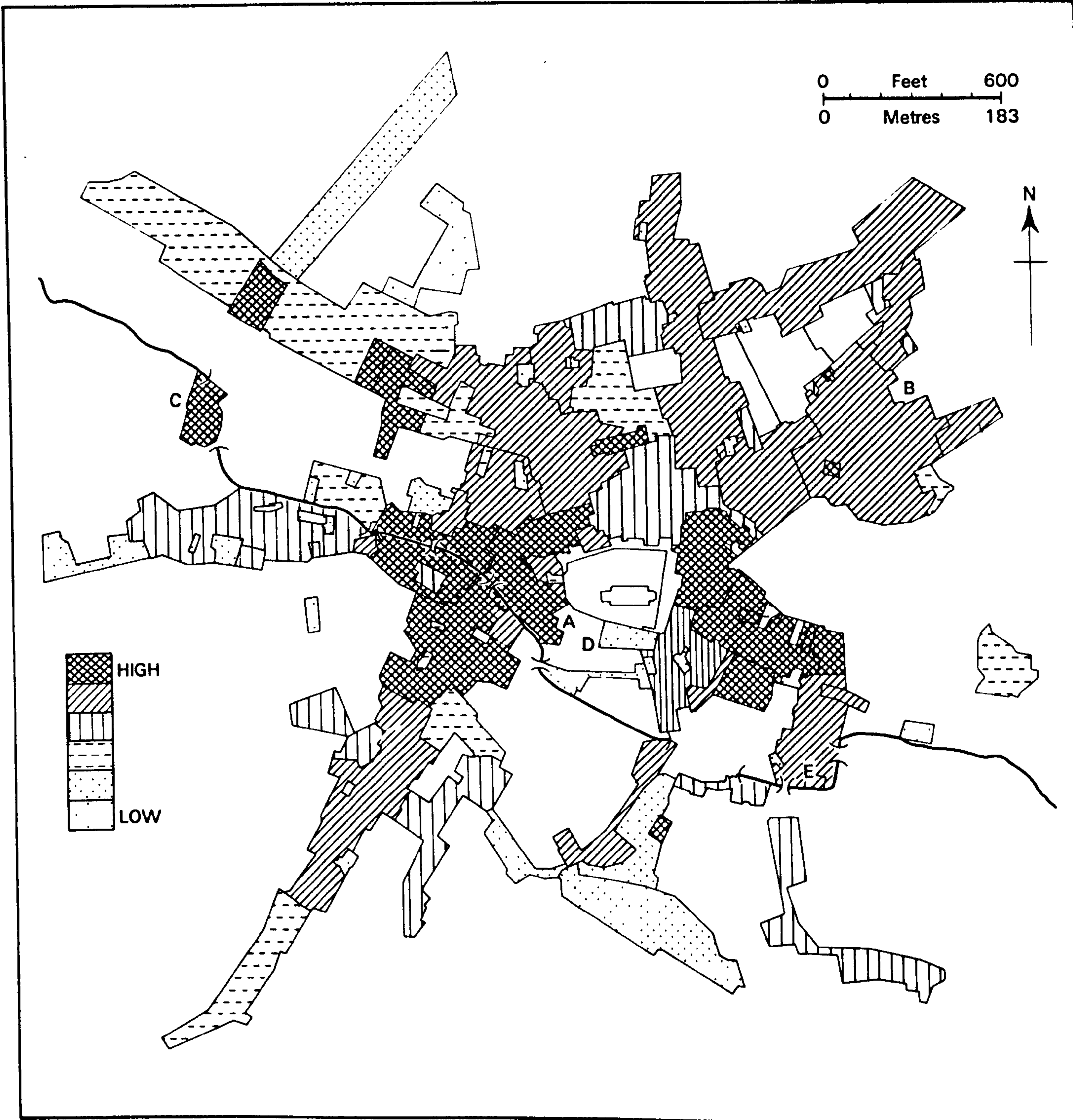
-0.76951	V.16	% of T.A.P. in S.E.G.s 4 and 5.
-0.64366	V.13	% of Household Heads in S.E.G.s 4 and 5.
-0.53591	V.33	% of T.A.P. in Agriculture and Breeding. (6)

These eigenloadings would seem to suggest that streets with high scores on this component are essentially working-class in status, whilst areas with very low component scores are of lower socioeconomic status. An examination of the resulting pattern of component scores, as presented in Figure 6.5, reveals another confused picture, with some streets having anomalous scores.

The highest scores (sextile 1) in Figure 6.5 are scattered throughout the town of Wrexham, although two working-class groupings in particular stand out; immediately to the west and east of the churchyard. A few of the streets within these areas have improved their status over the decade since the 1851 census (compare with Figures 5.2 and 5.5 in Chapter 5), but in

Figure 6.5

1861 : Component Two : Socioeconomic Status (ii).



A Town Hill
B Beast Market
C Island Green

D Yorkshire Square
E Havelock Square

general, most have maintained an essentially working-class character. Town Hill (marked A on Figure 6.5) was one street which suffered a decline in status over the decade 1851-1861. Formerly part of the higher status commercial core, by 1861 Town Hill had become more of a working-class area on the fringe of the commercial region, possibly forming part of a zone of decay or transition (compare Figure 6.3 with Figure 5.3 in Chapter 5).

High component scores (sextile 2) are also returned by many of the other commercial streets at the town's centre, although High Street does maintain its higher status in Figure 6.5. Many streets in the region of the Beast Market (marked B on Figure 6.5) also record high component scores, as do several of the courts scattered throughout the town, emphasising the working-class character of many such areas. Island Green (marked C on Figure 6.5) also displays a high score on component two (sextile 1), suggesting something of a return to the higher status it enjoyed in 1841, following a decline in 1851. Obviously the Island Green estate underwent several changes in status throughout the period of the mid-nineteenth century.

In contrast, streets or courts with low component scores in Figure 6.5 were often dominated by households of lower socioeconomic status. However, Figure 6.5 does reveal certain anomalies in that some streets which display low scores have already emerged as higher status areas in 1861, as shown in the previous section

(Figure 6.2). Such a situation is due to the presence in higher status households of "live-in" domestic servants. Thus such streets as King Street, Salisbury Park and Egerton Street which emerged on the first component for 1861 as areas of higher status (Figure 6.2), at the same time return low scores on component two (Figure 6.5). Such streets are obviously not dominated by households of lower socioeconomic status, but individual households do contain individuals with servile occupations.

In Figure 6.5, some streets which record low component scores were essentially of lower status in 1861. Such areas as Yorkshire Square (marked D on Figure 6.5), The Barnfield and several courts, all showed a similar low status on component one (Figure 6.2) thus confirming their dominant characteristics. Indeed Yorkshire Square maintained this low social status throughout the period of this analysis of Wrexham, and in the twenty years from 1841 little appears to have changed here. In the east of the town, The Caia and Dog Kennel Hill both record low scores, but here low scores are as much due to the agricultural nature of this area as to the presence of individuals of low socioeconomic status.

Unlike the earlier analyses for 1841 and 1851, the area bordering the river Gwenfro did not emerge as a distinct area of lower status in 1861. However, high status residents still did not live near the river due to the problems associated with the dominant riverside

industries of brewing and tanning. The nature of the conditions along the river were vividly described in the local newspaper, in a letter to the editor from a "poor man", a resident of Havelock Square (marked E on Figure 6.5), part of Salop Road located very near the river. Because of the quality of the description, it will be quoted at length here:

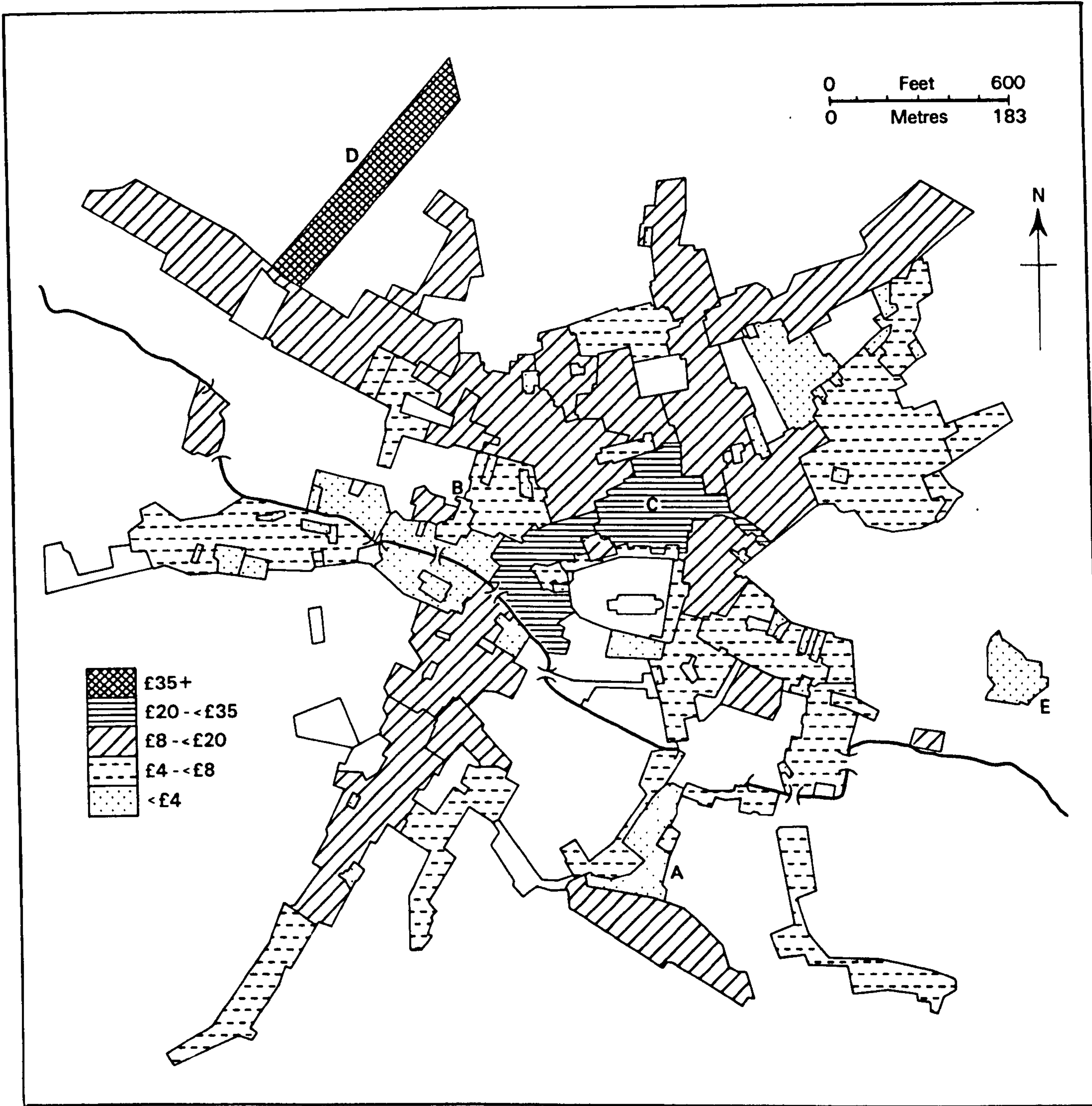
"Sir, I am a poor man living in Havelock Square, which you know is close to the brook, the stench from which often makes me very ill..... I have taken some trouble to inquire why it is so bad lately, and beginning at the top end of the town, I find the drainage of 200 persons in the workhouse flows into it. A little further down all Pentrefelin, and the Isle of Man with its numerous population, together with The Walks and a large brewery also drains into it. I now come down to Brook Street, the whole of which, together with numerous breweries and the British School, drain into it. I now get to the Ruabon Bridge. I there find drains pouring in the filth right and left from the numerous water-closets in connection with the drains in various parts of the town. I go a little further down and there find four more breweries and a tanyard, all contributing to aggravate the evil. I now come to Pontuttle. There is a drain down this street bringing the washings from another brewery and all the numerous houses. At this bridge there is also a much larger brewery pouring out its sour washings into the brook. I now come to the greatest of all nuisances - The Gas Company, sending the ammonia water, and tar or gas oil out, through a drain into the river. This at times has made me very sick. One of the men at the skinyard tells me they have been obliged to stop work at times, the water has been so bad...." (14)

The Gas Works was situated in Salop Road, very near to the writer's place of residence in Havelock Square. Obviously conditions along the river remained very bad throughout the whole period under discussion and the situation had not improved by 1862. If anything, conditions had deteriorated with the growing demands made on the river by the brewing and tanning concerns along its banks. However, due to the confusing spatial patterns which have emerged in Figures 6.2 and 6.5, the problems associated with the river and their effect on nearby residences (and therefore the social structure of the town) do not emerge very clearly.

An examination of rateable value data, for the year of 1859 on the other hand, does bring out more clearly the underlying social structure of the town of Wrexham.⁽¹⁵⁾ These data are presented in Figure 6.6 and immediately it is obvious that the whole area bordering the river was also a region where the houses had relatively low rateable values. Streets with an average rateable value of less than £4 per annum included Brook Street, The Walks and Yorkshire Square as well as numerous courts across the town. The Barnfield (marked A on Figure 6.6) too had a low average rateable value, as did Market Street (the former Seven Bridge Lane) near the Beast Market. The Barnfield (among others), was cited in the local newspaper as being a particularly unhealthy place to live:

Figure 6.6

1859 : Average Annual Rateable Values.



A The Barnfield
B Vicarage Hill
C High Street

D King Street
E Caia

"The surveyor reported that several houses situate at The Barn Field, near to Madeira-hill..... and also several houses in Abbot-street and Brook-street are without sufficient water closets or privies, and ashpits with proper doors and coverings." (16)

Those streets with average annual rateable values in the second category, between £4 and £8 per annum (see Figure 6.6) coincide with those sections of the town which had previously emerged as being of lower status. Thus in the west of the town, Pentrefelin falls into this category, with Vicarage Hill (marked B on Figure 6.6) and Abbot Street, whilst in the region to the south-east of the churchyard, Tuttle Street, Mount Street and Salop Road are all included, as are several areas across the river Gwenfro. The Beast Market and several adjoining streets form the only other large area with houses of low average annual rateable value (Figure 6.6).

At the other extreme, only two streets have high average annual rateable values of between £20 and £35 (the fourth category), and as can be seen from Figure 6.6, both are located at the commercial centre of the town. Both High Street (marked C on Figure 6.6) and Town Hill appear to have maintained their superiority in the type of houses found there, although it has already been suggested in this chapter that Town Hill had suffered something of a social decline between 1851 and 1861. Undoubtedly the presence of large premises incorporating both shops and houses inflated the

rateable values in these areas, but Figure 6.6 does also confirm that High Street continued to be the premier commercial street in the town.

Only one street in Wrexham had an average rateable value of more than £35 per annum - King Street (marked D on Figure 6.6), in the north-western sector of the town. Since its development in the 1830s, King Street had been a model for residential building in Wrexham and throughout the period under discussion it maintained a position as the status street in the town. This was still the case in 1861 as shown by Figure 6.2 and confirmed by Figure 6.6. However, by 1861, nearly thirty years had passed since its development and some problems were beginning to emerge, and concern began to be expressed in the local newspapers about its sanitary condition:

"...the state of the premises nos. 8, 9 and 10 King Street. The drainage of these houses and the surplus water being allowed to accumulate in the yard at the back, there being no provision for its disposal with the exception of a deep pit, which, as it is now quite full, becomes very dangerous, but the contents being of an offensive character, a condition is produced most prejudicial to health, and one which the advancing season must materially aggravate..." (17)

Dissatisfaction with the homes available in King Street and the growing demand for more houses on the outskirts of Wrexham, led to further expansion during the next few years. Throughout the early years of the

1860s, further development of the north-western periphery was undertaken with the building of houses on land in Grove Park, which was sold off at the end of the previous decade:

"To be disposed of, in one or more lots, to suit purchasers, five lots of eligible Land for Building Purposes, situate in the Grove Park, adjoining the New Road. Should the whole be taken as one lot, it will be sold at 2s.4d. per square yard."(18)

Throughout the following years, periodic articles in local newspapers detailed the subsequent development of Grove Park and the building undertaken there. Entries for this area in the census of 1861, if there were any, have not survived so the Park was excluded from this present analysis. However, by 1871, several new roads had been developed in the area, including Grove Road and Grosvenor Road whilst further to the north, building had also occurred near Rhosddu; all these new streets will be included in the analysis of the next census, in the following chapter.

One anomaly does emerge in Figure 6.6 which may in part be due to the data source. On the far eastern edge of Wrexham, the farm known as The Caia (marked E on Figure 6.6), had an annual average rateable value of less than £4 and it thus forms part of the lowest category. However, in the rate books, this amount was returned for the "Caia land", which might not have

referred to the farm itself but to small cottages on the land linked to the farm or even, to the land alone.

Apart from this one irregularity, the pattern of rateable values as shown in Figure 6.6 agrees very well with the sociospatial structure of the town as revealed by the analysis of census data. Evenso, the results for the first two components for 1861 have been somewhat confused, so we shall next examine the third component to emerge, to improve our understanding of the town at this date.

6.4 Component Three: Lifecycle

The third axis of differentiation in the 1861 Principal Components analysis had an eigenvalue of 3.26820 and accounted for 7.8% of the total variance within the data set. The variables with the highest positive eigenloadings on this component indicate that this axis was essentially concerned with aspects of the lifecycle of inhabitants of the town:

0.54905	V.24	% of population aged 0-4 years.
0.53789	V.25	% of population aged 0-14 years.
0.47355	V.29	Fertility Ratio.
0.46240	V.22	Mean household size. (6)

Thus streets which display high component scores on this axis can be identified as areas in which households were relatively large, with numerous young children. At the other extreme, variables with the

lowest (highest negative) eigenloadings on this component, were more confused with an emphasis on elderly household heads while socioeconomic status was also important:

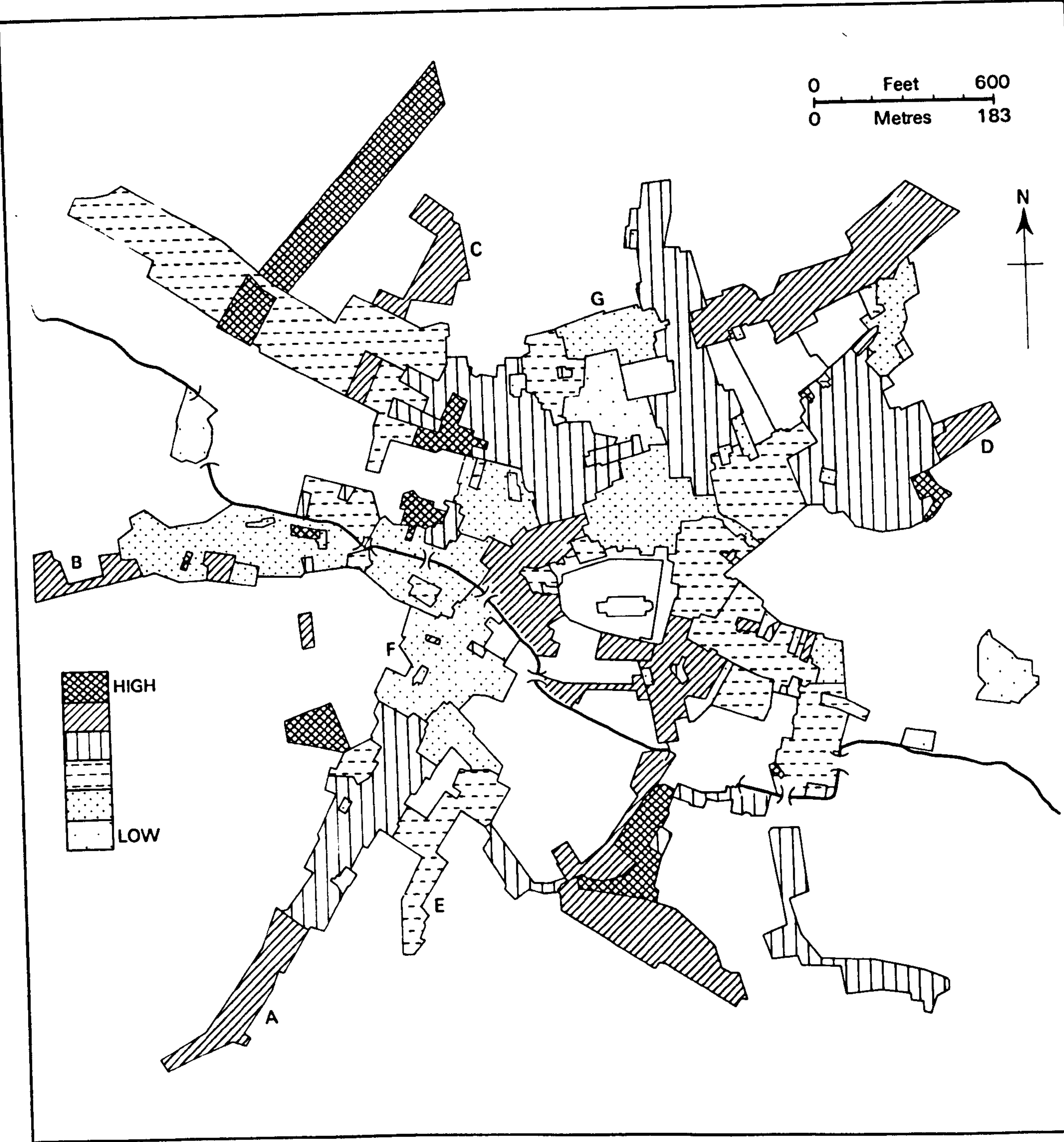
-0.51709	V.15	% of T.A.P. in S.E.G. 3.
-0.47059	V.31	% of widowed, female household heads.
-0.45165	V.23	Mean age of household head. (6)

The resulting component scores for this third axis (again arranged into sextiles around the median) are presented in Figure 6.7, and it is immediately clear that no one feature dominates the spatial pattern. Streets with the highest component scores (sextiles 1 and 2) are scattered throughout the town, although the main concentration is located immediately to the south of the churchyard and continues across the river. This region coincides, in the main, with those areas of medium and low socioeconomic status which emerged in Figures 6.2 and 6.5. Other streets with young populations include Ruabon Road (marked A on Figure 6.7) and Belle Vue Road (marked B on Figure 6.7), both of which occupy peripheral locations, as do Crescent Terrace (marked D on Figure 6.7) and Theatre Road, adjoining the Beast Market.

Figure 6.7 also suggests that, despite its enduring superiority in terms of status, by 1861 at least, King Street was undergoing some slight but significant change in character. Both King Street and

Figure 6.7

1861 : Component Three : Lifecycle.



A Ruabon Road
B Belle Vue Road
C Egerton Street
D Crescent Terrace

E Erddig Road
F Bridge Street
G Lambpit Street

the neighbouring Egerton Street (marked C on Figure 6.7) record high component scores on this third axis suggesting that in both, children and large families were important. Yet in the earlier analyses for 1841 and 1851, one enduring feature of King Street was the elderly age of many of its high status inhabitants.⁽¹⁹⁾ Therefore, over the decade 1851-1861, it would appear that younger families had moved into the street, possibly to replace older householders. This change in King Street was possibly linked to other developments on the town's periphery, such as the building in Grove Park, of newer, more exclusive residential streets. As mentioned before, the development of Grove Park could not be included in the analysis for 1861 because of a lack of data, and therefore it is not shown in Figure 6.7.

However, if one examines the original data obtained from the census, it is obvious that in fact the age structure of King Street changed very little over the preceding decade (Figure 6.8). Thus, the inclusion of King Street in sextile one in Figure 6.7 may be due to the size of households within the street being inflated by the presence of servants rather than young children.

Figure 6.8
The Percentage of the Population of King Street in
Various Age Groups, 1851-1861.

	Age Groups (Years)			
	0 - 4	0 - 14	15 - 59	60+
1851	5.6	23.2	67.2	9.6
1861	7.0	24.8	64.3	10.9

1851 data from Figure 5.11.
Source: Census.

Although throughout this period, new building was concentrated in this north-western region of Wrexham, elsewhere in the town, family homes were also springing up in several streets which show high component scores on this third axis (Figure 6.7). The advertisements for new houses in the local newspapers provide insights into the type of homes on offer. Thus the houses in Crescent Terrace (marked D on Figure 6.7) adjoining the Beast Market, included the following substantial structures:

"To be let. Three newly-erected Dwelling-Houses, delightfully situated in Crescent Terrace, Wrexham, each containing 3 bedrooms, parlour, kitchen, back kitchen, cellar etc; also a good pump of spring water." (20)

Similar structures, aimed mainly at middle-class households, were found elsewhere in the town, but most

were situated on the periphery. Another road to be developed during the 1860s was Erddig Road (marked E on Figure 6.7) located on the southern periphery:

"...the sites of these new houses is in the neighbourhood of Erthig-road - they will be neat, substantial structures, and will form quite a pretty little village when completed...." (21)

Despite the not insignificant amount of building development undertaken in Wrexham during this period, particularly immediately following the year of incorporation, 1857, there was still some public discussion about the lack of available houses in the town, an indication that either still more houses were needed or that those houses being built were of the wrong type. Such a complaint was printed in the newspaper, in the form of a letter to the editor from a tenant of Chester Street:

"In my last I stated that there were not 3 houses to let in Wrexham, since then I have heard of one to be let, and in less than 3 days there were no less than 40 applicants for that house. Does not that solitary fact alone prove the want... want of houses operates injuriously on the town.... The fewer houses, the greater demand, consequently higher rates... houses are dearer in Wrexham than any other town...." (22)

Obviously then, in Wrexham at this time, the demand for houses to let particularly, heavily

outweighed the supply. One obvious result of this situation was the problem of overcrowding amongst the lower classes, in certain areas of the town. This problem was detailed at some length in a newspaper report of 1862:

"....we know something about overcrowding in Wrexham. During the last ten years we have had about a thousand persons added to the population, but during that period there has scarcely been a single dwelling built for the use of the lower classes; those who speculate in brick and mortar will not build houses for the poor, the trouble and expense of collecting the rent are such serious drawbacks on the outlay. All round we see respectable residences, villas and mansions springing up, but cottages nowhere. The numbers added to our population in the lower strata of society (and it is here that the principal increase has taken place) have to seek shelter in dwellings already crowded almost to suffocation. Hence the complaints about overcrowded dwellings in Tuttle-street, Yorkshire Square, Mount-street, Yorke-street, and other parts of the town - sixteen persons sleeping in a dwelling which according to the laws of health is too small to accommodate six....." (23)

The problem of overcrowding was to be an enduring feature of the town in the later nineteenth-century, not effectively resolved until the largescale council building programmes of the early twentieth-century. Villa and higher status residences continued to be built on the periphery of the town, leaving the poorer classes to crowd into the older streets of the central area. Some cheaper cottages were erected in Rhosddu, to the north of the town in the later 1860s and 1870s,

but such developments were not enough to substantially alter the distribution of the social classes in Wrexham.

One other interesting feature of Figure 6.7 are those streets which record very low scores on this third component, low scores being indicative of streets dominated by older, working-class households. Again the main concentration of low scores borders the river in the west of the town and includes Pentrefelin, Brook Street and the adjoining Bridge Street (marked F on Figure 6.7) and Abbot Street. Thus Figure 6.7 confirms this area as being essentially working-class, as was the nearby Island Green which also shows a low component score. Two farming areas on the far eastern edge of the town - The Caia and Dog Kennel Hill, also have low scores. Such farming households were often of a traditional and established nature. The main commercial street - High Street, immediately to the north of the churchyard, also records a relatively low component score for 1861 in Figure 6.7, unlike the majority of the adjoining central streets, all of which show higher scores except Lambpit street (marked G on Figure 6.7).

As with the earlier results from this analysis of the 1861 census, the pattern which emerges in Figure 6.7 is somewhat unsatisfactory, particularly when compared with the analyses for 1841 (Chapter 4) and 1851 (Chapter 5). However, it is clear that as the

town grew in size, the spatial patterns became more complicated and therefore much harder to interpret. To complete the picture for 1861, we now turn to the fourth component, the final component to be discussed in detail here.

6.5 Component Four: Migration

This fourth axis of differentiation had an eigenvalue of 2.78622 and it accounted for 6.6% of the total variance within the data set. The first four components taken together, only accounted for 40.7% of the variance, emphasising the rather unsatisfactory results from this 1861 analysis.⁽²⁴⁾

Variables with the highest positive eigenloadings on this fourth component suggest that it was essentially concerned with delimiting those streets where lodgers formed an integral part of the community, and where in particular, in ethnic terms, inhabitants born in Ireland were important:

0.61157	V.18	Mean number of lodgers per household.
0.58027	V.32	% of households with "lodger families".
0.47471	V.17	% of households with lodgers.
0.40294	V.9	% of population born in Ireland. ⁽⁶⁾

The term "lodger families" may require some elucidation at this point. In his work on north-east Wales, Pryce found that house sharing by two families

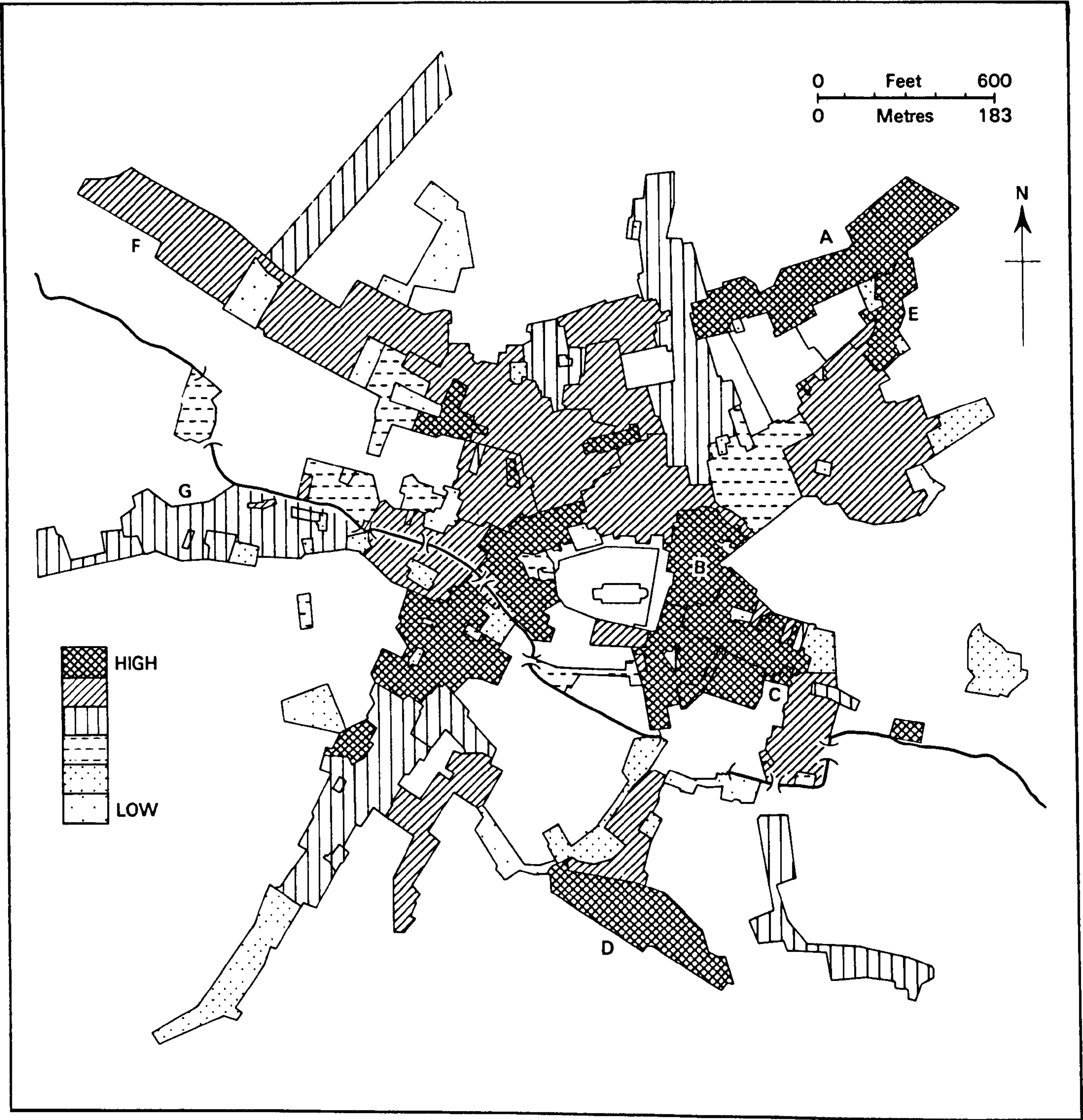
was very hard to discern from the census returns.⁽²⁵⁾
 A similar problem was found in this analysis of Wrexham and from the census it was difficult to gain any impression of overcrowding or shared households. However, in some cases it was possible to identify the presence of lodgers living with their wives and/or children within other households. Such "lodger families" were noted and included in the data set to serve as an indicator of a shared dwelling in the absence of other, more reliable information.

At the other extreme, those variables with the lowest (highest negative) eigenloadings were essentially concerned with ethnic minorities, although females were also important:

-0.45625	V.28	Sex Ratio: females/males.
-0.44498	V.10	% of population, Foreign born.
-0.42930	V.8	% of population born in Scotland. ⁽⁶⁾

Again the component scores associated with this fourth axis were arranged into sextiles around the median, for the sake of comparability, and the results are presented in Figure 6.9. Immediately it is apparent that those streets with very high scores (sextile 1) were essentially those streets of working-class or lower socioeconomic status identified earlier in Figures 6.2 and 6.5. These streets include several in the region to the south-east of the churchyard, Bridge Street in the west, and Holt Street

Figure 6.9
1861 : Component Four : Migration.



A Holt Street
B Yorke Street
C Church Hill
D Salisbury Park

E Farndon Street
F Regent Street
G Pentrefelin

(marked A on Figure 6.9) in the east of the town.

In the area to the south-east of the churchyard, lodging had long been a common feature; evidence of this was also found here in the analysis of 1851 data (Figure 5.5). Overcrowding, as was suggested earlier in this chapter, was an enduring feature in such areas of the town, particularly among the poorer classes. Streets with high component scores in 1861 include Tuttle Street, Mount Street, Yorke Street (marked B on Figure 6.9) and Old Church Hill, whilst the adjoining Yorkshire Square also has a high score, although slightly lower than its neighbours. Within Yorkshire Square inhabitants born in Ireland formed an important component of the total population,⁽²⁶⁾ and here they comprised some 37.9% of the square's total population as compared with 46.4% born in Wrexham itself (Figure 6.10).

It was well known that conditions in this whole region were often overcrowded and monthly meetings of the Local Board of Health often referred to this problem, which became more acute at the time of the annual March Fair when itinerant traders and hawkers, usually of Irish origin, lodged with fellow Irishmen in the town. A report in the local newspaper, early in 1862, detailed the problems of overcrowding in Wrexham as witnessed by two medical practitioners in their report to the Local Board:

Figure 6.10
1861: Ethnic Status

% of the total population in each street classed according to Birthplace
(selected streets only).

Street:	Wrexham	Denbigh Flint & Merioneth ⁽ⁱ⁾	Rest of England & Wales	Scotland	Ireland	Foreign
Mount Street	45.7	18.1	21.2	1.8	12.3	0.7
Church Hill	16.7	-	4.8	2.4	76.2	-
Tuttle Street	57.1	7.3	9.3	-	25.1	0.5
Yorke Street	44.9	12.8	20.5	2.6	19.2	-
Barnfield	45.1	6.6	8.8	-	39.6	-
Coed y Glynn	-	18.2	54.6	27.3	-	-
Charles Street	47.7	22.0	25.2	3.9	1.3	-
Beast Market	55.8	22.1	18.4	-	3.7	-
High Street	25.7	42.8	31.0	0.7	-	-
Henblas Street	56.9	18.1	22.2	-	2.8	-
Chester Street	38.2	22.5	31.5	3.9	2.9	-
Lampit Street	47.9	31.2	19.2	-	1.2	-
Queen Street	49.6	28.3	15.8	3.1	3.1	-
Holt Street	36.4	31.8	31.7	-	-	-
King Street	32.6	25.6	35.8	2.3	3.1	-
Vicarage Hill	55.0	15.0	15.0	10.0	5.0	-
Abbot Street	44.4	36.1	19.0	-	0.8	-
Town Hill	39.4	33.3	24.2	-	-	3.0
Bryn y Ffymon	50.0	11.1	27.8	11.1	-	-
Priory Street	15.4	15.4	38.5	-	30.8	-
The Walks	55.9	14.7	8.8	-	20.6	-
Isle of Man	60.0	8.0	19.9	-	12.0	-
Belle Vue Road	62.9	12.2	11.4	0.7	12.9	-
Owens Court, Beast Mkt.	34.5	13.7	-	-	51.7	-
Welsh Entry, Queen St.	66.1	7.2	3.6	-	23.2	-
Bithells Court, Yorke Street	36.4	4.5	18.1	-	36.4	4.5
Alcocks Ct, Mount St.	16.1	22.6	38.8	-	22.6	-
Williams Ct, Mount St.	55.6	22.2	-	-	22.2	-
Gibbons Ct, Salop Rd.	70.0	-	5.0	-	25.0	-
Salisbury Park	22.2	11.2	55.6	-	11.1	-
Mount Pleasant	50.0	9.0	16.7	-	24.2	-
Kenricks Row	44.4	-	44.4	-	11.1	-
Military Depot	42.9	-	25.0	10.7	10.7	7.1
Roxburgh Place	31.9	31.9	23.4	12.8	-	-
Cannon Ct, Abbot St.	25.0	-	25.0	-	50.0	-
Well Ct, Abbot St.	67.9	7.1	-	-	25.0	-
Jones Ct, Brook St.	36.0	-	-	-	64.0	-
Brewery Place	52.0	6.0	16.0	-	26.0	-
Edwards Square	62.9	3.2	17.7	1.6	12.9	1.6
Tuttle (Yorkshire) Sq.	46.4	8.6	7.0	-	37.9	-
Bates Sq, Tuttle St.	59.1	4.5	-	-	36.4	-
Jones Ct, Pentrefelin	22.2	38.9	16.7	-	22.2	-
Chapel Sq, Pentrefelin	39.3	18.1	9.7	-	32.8	-
Pearces Sq, Isle of Man	51.6	6.3	4.7	-	37.5	-
Davies Ct, Isle of Man	41.2	2.9	-	-	55.9	-
Butlers Ct, Bellevue (ii)	-	-	-	-	100.0	-

Source: 1861 Census.

Note (i) : Excluding the town of Wrexham.

Note (ii) : Streets were included if they contained populations of which more than 10% had been born in Ireland or Scotland, or if they were part of the town's central commercial core.

"(The two medical practitioners certified...).... that a certain house, No.17 Yorke Street has been so overcrowded as to be prejudicial to health... (they) found fourteen persons sleeping in the house on the night of the 17th ult., that it was ill-ventilated, very dirty and so dilapidated as to be entirely unfit for a human habitation... Those who build houses in this town, always build to suit the rich and the well-to-do classes, but nobody built houses for the poor." (27)

The Irish background of inhabitants in the region to the south-east of the churchyard was well known within Wrexham itself at this time and this is confirmed if the original census data relating to ethnic origins are examined (Figure 6.10). In Church Hill (marked C on Figure 6.9), at the bottom of Mount Street, some 76.2% of the population were born in Ireland, while in Tuttle Street the proportion was a smaller, but still important, 25.1%. Yorke Street (19.2%) and Mount Street (12.3%) also had smaller but significant proportions whilst many of the inhabitants of Yorkshire Square (Tuttle Square) were also of Irish origin (37.9%), (Figure 6.10). All these streets also had important Irish-born populations in the earlier analyses for 1841 (Figure 4.7) and 1851 (Figure 5.9).

Across the river Gwenfro, two other areas which show high scores in Figure 6.9, also had quite large proportions of Irish-born amongst their inhabitants - 39.6% in The Barnfield and 11.1% in Salisbury Park (marked D on Figure 6.9). The inclusion of Salisbury

Park with a high component score on this fourth axis is somewhat surprising considering that this was an area of relatively recent development. However, the development here was in its early stages in 1861, with only a total of four houses actually occupied. Thus although quite a substantial proportion of the population here were born in Ireland, and some 25.0% of the households had lodgers, the importance of such characteristics have been overemphasised due to the smallness of the numbers involved.

Nonetheless, the Irish population was well known within the town and it was numerous enough for members to be given a separate identity. From the surviving census records, in 1861 those born in Ireland totalled 573, or 8.6% of the total population of Wrexham, but this is probably an inaccurate figure, due to the incompleteness of the data set. In 1851, some 564 individuals born in Ireland were living in Wrexham, 8.4% of the town's total population, (see Figure 5.6) and it can be presumed that over the intervening decade, this total had increased more than it would seem from the totals above. This is suggested in a report in the local newspaper which stated that:

"...although there has been a great increase of the Hibernian population - who are notorious for quarrelling - our streets on the whole present a very orderly and peaceable appearance..."(28)

However, several areas within the town were less peaceful throughout this period and many reports of court cases involving charges of "drunk and disorderly" were linked to individuals of Irish origin. So serious was the problem that newspapers carried reports condemning the Irish for their behaviour:

"After the termination of the above case, Mr. Bradshaw, Superintendent of Police, asked the permission of The Bench to make a few remarks on the conduct of the Irish in the town of late.... The conduct of the Irish in the town had been of late disgraceful in the extreme. He (the Superintendent) had never seen so much drunkenness in our streets, as he had amongst the Irish on Sunday week. For the future, he should summon every person that he saw drunk whether they were disorderly or not...." (29)

Returning to a discussion of Figure 6.9, the high component scores recorded by Holt Street (marked A on Figure 6.9) and the adjoining Farndon Street (marked E on Figure 6.9) and Beast Market, are consistent with the established character of the area which was essentially lower socioeconomic status. However, much harder to rationalise are the high scores returned by most of the commercial streets in Wrexham, especially Town Hill and the adjoining Bridge Street. Again these results may be due to problems within the data set itself but they might also suggest that even in the central streets and particularly in their back premises, lodging was widely found in 1861, due to the increasing pressure of a growing population.

Fronting the main streets in this commercial core were both shops and substantial houses but in their back premises several households could be crowded into cramped conditions. The amount of lodging in these streets varied quite considerably. In High Street only 7.69% of the households took in lodgers but in Bridge Street (33.33%) and Town Hill (25.0%) the proportions were much higher (Figure 6.11). Similarly, Lampit Street (27.5%), Hope Street (16.67%) and Henblas Street (14.28%) also had substantial proportions of households with lodgers. Thus lodging was quite important in this whole central area and as a result, these streets return high component scores in Figure 6.9. If Figure 6.11 is compared with data derived from the analysis for 1851 (Figure 5.8), it will be seen that the proportions of households with lodgers in almost all of these commercial streets has increased over the intervening decade, suggesting that lodging was becoming more important in these areas.

At the other extreme, streets with low component scores in Figure 6.9, are scattered throughout the whole built-up area of the town, many being small courts or squares where lodging was prohibited by the size of the houses, or recently developed peripheral roads. Egerton Street, a recent development off Regent Street (marked F on Figure 6.9) comes out clearly in Figure 6.9 as a non-lodging area, as do Ruabon Road in the south, and both Crescent Terrace and Theatre Road, two newer developments adjoining the

Figure 6.11

1861: Households with Lodgers.

% of households in each street with lodgers and "lodger families".

Street:	Lodgers	Lodger Families
Mount Street	36.96	23.91
Mount House	50.0	50.0
Church Hill	50.0	16.67
Salop Road	21.87	9.4
Tuttle Street	37.14	14.28
Yorke Street	42.86	21.43
Hafod y Wern	100.0	-
Kings Mills	12.5	-
Wrexham Fechan	17.5	5.0
Eagle Street	31.25	-
Dog Kennel Hill	-	-
Caia	-	-
Madeira Hill	16.67	5.56
Barnfield	16.67	11.11
Coed y Glynn	-	-
Sontley Hill	-	-
Charles Street	25.0	-
Cutler's Entry	20.0	-
Beast Market	32.14	7.14
Theatre Lane	-	-
Crescent Terrace	30.77	-
High Street	7.69	-
Kenrick Street	44.44	22.22
Henblas Street	14.28	-
Chester Street	25.0	1.92
Lampit Street	27.5	-
Queen Street	28.57	-
Holt Street	45.45	27.27
King Street	19.05	-
Mold Road	-	-
Brook Street	24.24	-
Vicarage Hill	25.0	-
Abbot Street	32.0	4.0
Town Hill	25.0	25.0
Church Street	-	-
Hope Street	16.67	-
Bryn y Ffynnon	-	-
Priory Street	50.0	50.0
Well Street	12.5	-
The Walks	22.22	11.11
Island Green	50.0	-
Erddig Road	20.0	10.0
Penybryn	15.38	-
Bridge Street	33.33	6.06
College Street	11.11	-
Pentrefelin	15.15	-
Isle of Man	22.22	11.11
Belle Vue Road	25.71	-
Thornley Square	16.67	-
Tenter's School	-	-
Bridewell	-	-
Owens Court, Beast Market	40.0	20.0

Figure 6.11 (continued).
1861: Households with Lodgers

% of households in each street with lodgers and "lodger families"

Street:	Lodgers	Lodger Families
Prices Court, Holt Street	-	-
Welsh Entry, Queen Street	20.0	-
Bear Court, Yorke Street	33.33	-
Hughes Court, Yorke Street	-	-
Bithells Court, Yorke Street	50.0	25.0
Mount Place, Mount Street	50.0	-
Jones Court, Mount Street	50.0	-
Browns Court, Mount Street	50.0	-
Jones Square, Mount Street	50.0	50.0
Alcocks Court, Mount Street	14.29	-
Williams Court, Mount Street	66.67	-
Jones Court, Tuttle Street	50.0	-
Havelock Square	12.5	-
Gibbons Court, Salop Road	66.67	-
Alma Terrace	66.67	-
Salisbury Park	25.0	25.0
Willow Road	-	-
Mount Pleasant	30.77	-
Smiths Court, Charles Street	-	-
Albert Place, Beast Market	20.0	20.0
Roberts Square, Beast Market	16.67	-
Farndon Street	11.76	5.88
Harrisons Court, Farndon Street	28.57	14.28
Victoria Place, Farndon Street	22.22	-
Kenricks Row, Farndon Street	-	-
Holt Court	-	-
Coopers Row	30.0	10.0
Hankers Yard	-	-
Harrisons Court, Chester Street	-	-
Grove Road	-	-
Rhosddu Road	33.33	-
Jones Court, Hope Street	20.0	20.0
Brades Court, Hope Street	-	-
Regent Street	20.0	-
Military Depot, Regent Street	-	-
Roxburgh Place	18.18	-
Hill Street	33.33	-
Egerton Street	-	-
Harrisons Court, Abbot Street	37.5	-
Cannon Court, Abbot Street	50.0	-
Well Court, Abbot Street	20.0	-
Jones Court, Brook Street	16.67	-
Well Court, The Walks	-	-
Brewery Place	18.18	-
Edwards Square	21.43	-
Tuttle (Yorkshire) Square	18.52	3.70
Bates Square, Tuttle Street	25.0	-
Foundry Road	50.0	-
Poplar Road	9.09	-
Chapel Street	-	-
Ruabon Road	-	-
Prospect Square, Penybryn	-	-

...continued...

Figure 6.11 (continued)
1861: Households with Lodgers

% of households in each street with lodgers and "lodger families".

Street:	Lodgers	Lodger Families
Clarkes Yard, Bridge Street	50.0	-
Victoria Place, Bridge Street	-	-
Horns Yard, Bridge Street	-	-
College Court	40.0	-
Stokes Court, Penybryn	-	-
Tenters Square	100.0	-
Jones Yard, Bridge Street	-	-
Edwards Court, Bridge Street	33.33	-
Mary Ann Square, Brook Street	23.81	-
Jones Court, Pentrefelin	20.0	-
Chapel Square, Pentrefelin	7.69	-
Castle Square, Isle of Man	-	-
Pearces Square, Isle of Man	6.25	-
Davies Court, Isle of Man	-	-
Butlers Court, Belle Vue Road	-	-
Hughes Court, Pentrefelin	33.33	-

Source: 1861 Census.

Beast Market.

Of those streets which record medium scores in Figure 6.9, only two are worthy of discussion here. The local, working-class character of Pentrefelin (marked G on Figure 6.9) is confirmed by its score on this fourth axis, and in Figure 6.9 it comprises part of sextile three. In 1861, only some 4.5% of the total population in Pentrefelin had been born in Ireland, and within this western riverside area, only the Isle of Man had a substantial number of Irish (12.0% - see Figure 6.10). The Isle of Man has already emerged as an Irish enclave within this analysis, and this is reconfirmed by its higher score in Figure 6.9.⁽³⁰⁾ King Street, in the north-west of the town, also returns a moderate score in Figure 6.9, emphasising that both lodgers and those of non-local origin were not important among its population.

This completes the discussion of the first four components which resulted from the Principal Components analysis of census data for 1861. To give an overall view of Wrexham at this date and to maintain the comparison with the analyses for previous censal years, a Cluster analysis was also undertaken on the same data set, and the results are presented below.

6.6 Cluster Analysis

A Cluster Analysis was undertaken on the same forty-two variables (see Chapter 2, Figure 2.6) and one

hundred and twenty street units (Figure 6.1) derived from the 1861 census which have already been used in the Principal Components analysis. The Ward's Error Sum procedure was again employed⁽³¹⁾ and the resulting dendrogram is given in Appendix C. The spatial results of this analysis are presented in Figure 6.12, where the street units have been grouped into twelve clusters to maintain comparison with the earlier analyses for other dates. Only eleven clusters are shown in Figure 6.12; cluster twelve falls outside the built-up area of the town.

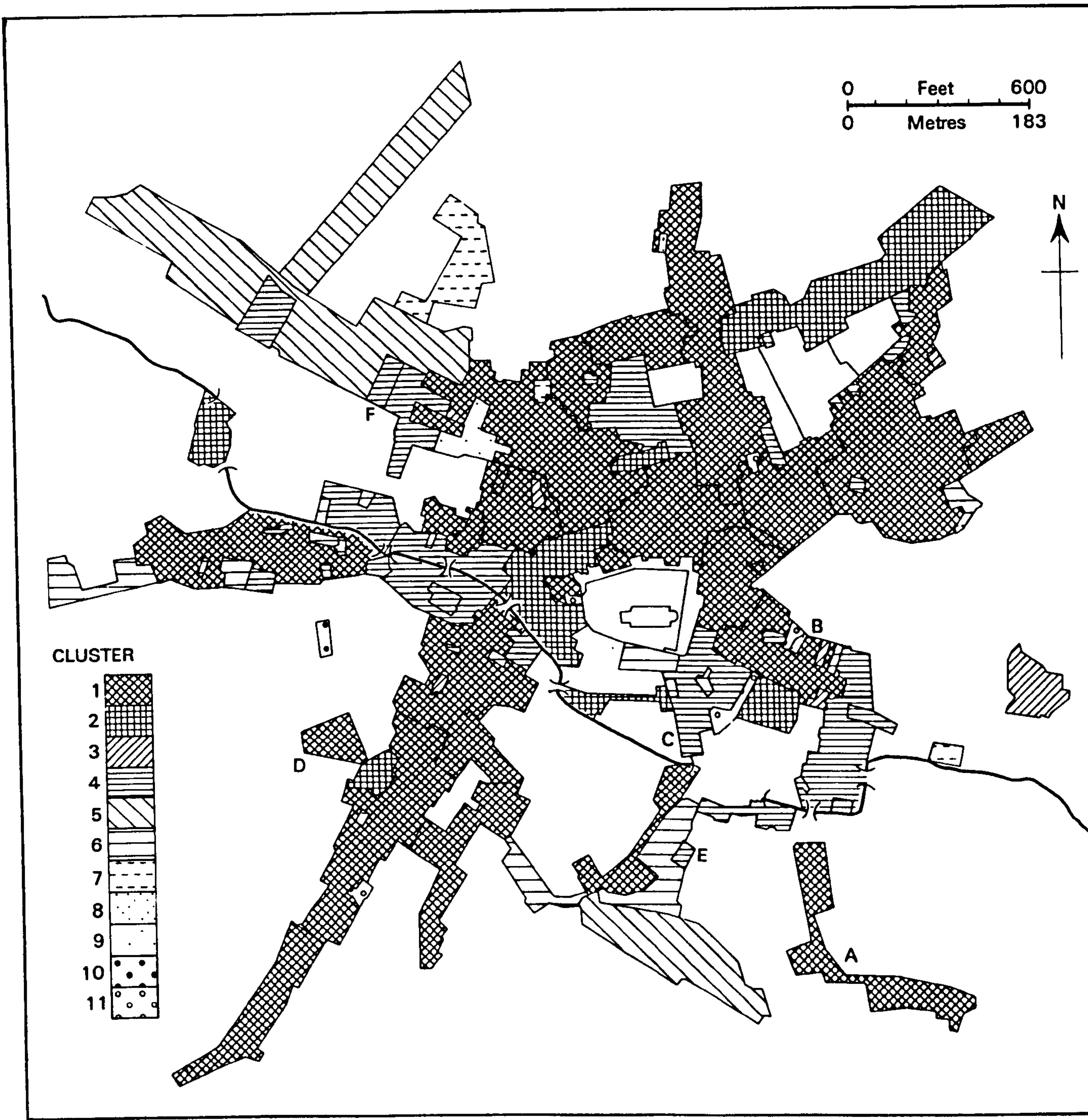
It is immediately apparent from Figure 6.12 that one cluster, Cluster 1, dominates the spatial pattern. This cluster encompasses all the main streets of the town, including those engaged in commercial activity. Variables with significant T-values associated with this first cluster, emphasise the dealing character of this cluster and the large size of the streets within it:

1.0149	V.37	% of T.A.P. in Dealing.
0.9894	V.20	Mean number of domestic servants.
0.9353	V.21	Households as a % of the total households in the town.

Two formerly independent hamlets, Pentrefelin and Wrexham Fechan (marked A on Figure 6.12) are included in this first cluster, and both maintained some commercial activity. Another member is Mount Street (marked B on Figure 6.12) which in 1861 apparently had

Figure 6.12

1861 : Cluster Analysis. 12 Cluster Stage.



more in common with the adjoining Yorke Street and other commercial streets than with its lower status neighbour Tuttle Street (marked C on Figure 6.12). Indeed, this cluster groups together streets of differing socioeconomic status, so that such streets as Mount Street and the Beast Market are included along with the higher status High Street. A number of streets extending to the south-west of the town are also included in this first cluster, and again all have some commercial or dealing activities within their bounds which links them to this grouping. In general terms however, cluster one represents a catch-all grouping so that in some respects, of more interest are those streets which are omitted from this cluster.

The second cluster, which is much less extensive than the first, has only seven members scattered throughout the town as shown in Figure 6.12. Variables with significant T-values associated with Cluster 2, suggest that it groups together streets with large households, their size being enlarged by the presence of mainly lodgers, but also, in some cases, servants:

1.4533	V.17	% of households with lodgers.
1.3346	V.32	% of households with "lodger families".
1.3071	V.22	Mean household size.
0.9573	V.20	Mean number of domestic servants.
0.9542	V.18	Mean number of lodgers per household.

Cluster 2 includes such streets as Holt Street, Town Hill and Mount House, all of which recorded high component scores on the fourth axis to emerge from the Principal Components analysis (see Figure 6.9), which was concerned with this lodging aspect of the town's character. Tenter's Square (marked D on Figure 6.12) and Kenrick Street had similar high scores on component four, but the remaining members of this second cluster, Foundry Road and Island Green had much lower scores (Figure 6.9). However, in all seven streets lodging was very important as shown by Figure 6.11, and this characteristic was the unifying factor for this grouping.

An even smaller number of street units group together to form Cluster 3, and the four members are again scattered throughout Wrexham. All are courts except for The Caia farm on the eastern edge of the town. The variables with the highest significant T-values emphasise the specialised, ethnic nature of these areas:

1.2091	V.35	% of T.A.P. in Transport and Building.
1.1023	V.9	% of population born in Ireland.
1.0477	V.6	% of population born in South East England.

Thus immigrants of non-Welsh origin were obviously important in these few small areas of the town, along with those employed in specific occupations.

In contrast to the small third cluster, Cluster 4, is much larger, as can be seen clearly in Figure 6.12. Again the lack of a contiguity constraint in the analysis resulted in the scattering of members of this cluster throughout the built-up area. Streets in this cluster were dominated by working-class households with large young families:

0.7267	V.12	% of Household Heads in S.E.G. 3.
0.6890	V.29	Fertility Ratio.
0.6552	V.24	% of total population aged 0-4 years.
0.5662	V.15	% of T.A.P. in S.E.G. 3.
0.5490	V.25	% of total population aged 0-14 years.

As can be seen in Figure 6.12, the members of this cluster include several streets adjoining the river Gwenfro, Henblas Street on the edge of the commercial area and several courts elsewhere in the town. To the south-east of the churchyard the members of cluster 4 include Tuttle Street (marked C on Figure 6.12) and Salop Road, along with Willow Hill and Alma Terrace (marked E on Figure 6.12) to the south of the river. Other working-class areas which emerge are Brook Street and The Walks in the west, and Hill Street and Roxburgh Place (marked F on Figure 6.12) further to the north.

Cluster 5, the next grouping, represents the high status cluster in this analysis. Only three of the total of six members of this cluster are shown in Figure 6.12, the others being located just outside the

boundaries of the map. The streets shown in Figure 6.12 are King Street and Regent Street in the north-west and Salisbury Park to the south, all of which were relatively recent residential developments in 1861. The higher status character of these streets is emphasised by the variables with the significant T-values:

2.3376	V.11	% of Household Heads in S.E.G.s 1 and 2.
2.2300	V.40	% of T.A.P. who are Independent.
2.1654	V.19	% of households with domestic servants.
1.7242	V.39	% of T.A.P. in Domestic Service.
1.6135	V.14	% of T.A.P. in S.E.G.s 1 and 2.

A complete contrast to this fifth grouping is Cluster 6 which is composed essentially of lower socioeconomic status areas, as confirmed by the corresponding variables with the highest T-values shown below:

0.9627	V.13	% of Household Heads in S.E.G.s 4 and 5.
0.8901	V.33	% of T.A.P. in Agriculture and Breeding.
0.7568	V.16	% of T.A.P. in S.E.G.s 4 and 5.
0.7254	V.9	% of population born in Ireland.

Obviously, households in these streets were relatively poor with individuals born in Ireland being important in some areas. As shown in Figure 6.12, these lower status areas were scattered throughout

Wrexham but they include Yorkshire Square which had already emerged as a lower status area, dominated by individuals born in Ireland (see Figures 6.2, 6.3 and 6.10). Other members of this cluster are Poplar Road and The Barnfield to the south, and somewhat more surprisingly, Belle Vue Road and Theatre Lane, on the western and eastern fringes of the town.

Figure 6.12 shows that the 7th Cluster to emerge from this analysis for 1861 is very small, but the member streets within it were not very different in terms of socioeconomic status, as suggested by the variables with the significant T-values:

1.9751	V.39	% of T.A.P. in Domestic Service.
1.9378	V.28	Sex Ratio: females/males.
1.8036	V.16	% of T.A.P. in S.E.G.s 4 and 5.
1.0696	V.13	% of Household Heads in S.E.G.s 4 and 5.
1.0544	V.19	% of households with domestic servants.

This cluster was composed of the newly developing Egerton Street in the north-west of the town, Dog Kennel Hill in the east and two courts - Stokes Court in Penybryn and Brades Court in Hope Street.

The remaining five clusters are all very small, particularly Cluster 8 which was composed entirely of one small court - Harrison's Court in Chester Street. Variables with significant T-values emphasise the specialist nature of this court, concentrating essentially on inhabitants born outside Wrexham in the

surrounding English and Welsh counties. Similarly, Cluster 9 is also very small, having only two members - Priory Street and Jones Court in Mount Street. The variables with the highest significant T-values suggest that lodgers were an important part of households in both areas, as were English immigrants:

5.9480	V.7	% of population born in the Rest of England.
4.5450	V.32	% of households with "lodger families".
2.3340	V.18	Mean number of lodgers per household.
1.9378	V.22	Mean household size.

Cluster 10 is also small, with only one member, Tenter's School, which was obviously a unique feature of the town in 1861. Cluster 11 is larger, having five members, but most are small courts scattered throughout the working-class streets of the town. The important variables emphasise the moderate socioeconomic status of these courts with manufacture being an important occupation:

1.3373	V.36	% of T.A.P. in Manufacturing.
0.9164	V.26	% of total population aged 15-59 years.
0.9050	V.15	% of T.A.P. in S.E.G. 3.

Cluster 11 is the final grouping shown in Figure 6.12 because the last cluster, Cluster 12, which had only one unique member, falls outside the boundary of

the map and therefore is not included within it.

The results from this analysis of 1861 censal data are, in some ways, less satisfactory than those presented earlier for 1841 (Chapter 4) and 1851 (Chapter 5). This was at least partly due to the problems associated with the data themselves, which were incomplete for 1861. However, even flawed results are useful when compared with the earlier analyses and also that for 1871 which will follow (Chapter 7), and to extend this examination of Wrexham throughout the middle years of the nineteenth-century.

A comparison of the general spatial pattern of Wrexham as shown in Figure 6.12 with that for 1841 (Figure 4.12) and 1851 (Figure 5.14) reveals that by 1861 this pattern was more complex due to the increased size of the town. Certainly between 1851 and 1861 further developments had occurred in the spatial patterning of the town but such change was slow in a town the size of Wrexham.

There was certainly some further development of the higher status area on the north-western fringe but missing data for this area clouds the true picture in 1861. At the same time there is also some suggestion of a newer elite development on the southern periphery, confirming the continued movement of the higher status population from the town centre to the fringes. This has also led to some decline in status at the commercial core where, by 1861, there was less difference in status between the old established

streets and adjoining areas. The lower status populations however remain located along the river, to the south-east of the churchyard and in the numerous back-courts.

From Figure 6.12, it is clear that even in 1861 the spatial pattern of Wrexham was still relatively simple, with only one cluster (Cluster 1) dominating. In some ways this 1861 pattern resembles more the pattern for 1841 (Figure 4.12) rather than that for 1851 (Figure 5.14) but this may be a function of the incomplete data set used for 1861. In the following chapter, data from the 1871 census are analysed and since the data set was complete, that analysis will give a truer reflection of Wrexham at that date than it has been possible to do here, using data from the census of 1861.

6.7 Notes

1. Extract from the "Educational Review", published in The Wrexham and Denbighshire Weekly Advertiser, April 26th 1862. The National Library of Wales, Aberystwyth.
2. For full details of the totals analysed for each of the four census years see Chapter 2, Figure 2.1.
3. For 1861, 120 street units were identified from the census. This compares with 72 identified from the 1851 census (listed in Figure 5.1) and 51

identified for 1841 (Figure 4.1). Some variations in the definition of streets between dates was inevitable, but problems were relatively easy to resolve.

4. The Principal Components solution used was type PA1 from S.P.S.S. - "Statistical Package for the Social Sciences". The unrotated solution was obtained for all four analyses of data from the censuses of 1841, 1851, 1861 and 1871.
5. The original proposition of this method may be examined in: Ward, J.H. (1963) "Hierarchical Grouping to Optimize an Objective Function", The Journal of the American Statistical Association, Vol.58, p.236-244.
6. For the full list of variables included in the analysis, see Chapter 2, Figure 2.6.
7. King Street was the first residential development in Wrexham, in 1836.
8. Printed in The Wrexham and Denbighshire Weekly Advertiser, April 25th 1857. The National Library of Wales, Aberystwyth.
9. Printed in The Wrexham and Denbighshire Weekly Advertiser, May 30th 1857. The National Library of Wales, Aberystwyth.
10. Printed in The Wrexham and Denbighshire Weekly Advertiser, June 20th 1857. The National Library of Wales, Aberystwyth.
11. Printed in The Wrexham and Denbighshire Weekly Advertiser, June 17th 1854. The National Library

of Wales, Aberystwyth.

12. Compare Figure 6.2 for 1861 with the relevant figures for 1841 (Figure 4.2) and 1851 (Figure 5.2).
13. For the complete original data, see the following:
1841 - Figure 4.4; 1851 - Figure 5.3;
1861 - Figure 6.3.
14. Printed in The Wrexham and Denbighshire Weekly Advertiser, December 13th 1862. The National Library of Wales, Aberystwyth.
15. Rate book for The Borough of Wrexham, dated June 8th 1859. Deposited in The National Library of Wales, Aberystwyth. For each street the average annual rateable value was calculated; streets were then assigned to one of five classes. The results are presented spatially in Figure 6.6.
16. Printed in The Wrexham and Denbighshire Weekly Advertiser, January 4th 1862. The National Library of Wales, Aberystwyth.
17. Letter to The Board of Guardians, printed in The Wrexham and Denbighshire Weekly Advertiser, April 27th 1861. The National Library of Wales, Aberystwyth.
18. Printed in The Wrexham and Denbighshire Weekly Advertiser, May 9th 1857. The National Library of Wales, Aberystwyth.
19. See Chapter 4, Figure 4.5 and Chapter 5, Figures 5.10 and 5.13.

20. Printed in The Wrexham and Denbighshire Weekly Advertiser, November 14th 1857. The National Library of Wales, Aberystwyth.
21. Printed in The Wrexham and Denbighshire Weekly Advertiser, April 27th 1861. The National Library of Wales, Aberystwyth.
22. Printed in The Wrexham and Denbighshire Weekly Advertiser, October 13th 1860. The National Library of Wales, Aberystwyth.
23. Printed in The Wrexham and Denbighshire Weekly Advertiser, April 12th 1862. The National Library of Wales, Aberystwyth.
24. For 1861, the first four components accounted for 40.7% of the total variance in the data set. This compares with 44.5% in the 1851 analysis and 55.7% in the analysis of the 1841 census.
25. Pryce, W.T.R. (1971) The Social and Economic Structure of Northeast Wales, 1750-1890, Unpublished Ph.D. Thesis, C.N.A.A. (Lanchester Polytechnic, Coventry). Pryce, W.T.R. (1973) "Manuscript Census Records for Denbighshire in the Nineteenth Century", Transactions of the Denbighshire Historical Society, Vol.22, p.166-198.
26. The dominance of Irish-born inhabitants within Yorkshire Square was not a new phenomenon; see also Chapter 4, Figures 4.7 and 4.9 (when it was called "Old Yorkshire Hall") and Chapter 5, Figures 5.7 and 5.9.

27. Printed in The Wrexham and Denbighshire Weekly Advertiser, January 4th 1862. The National Library of Wales, Aberystwyth.
28. Printed in The Wrexham and Denbighshire Weekly Advertiser, January 12th 1861. The National Library of Wales, Aberystwyth.
29. Printed in The Wrexham and Denbighshire Weekly Advertiser, July 14th 1860. The National Library of Wales, Aberystwyth.
30. In 1841, 3.5% of the population of the Isle of Man had been born in Ireland (see Figure 4.7). By 1851 this proportion had risen to 19.1% (Figure 5.9).
31. Ward, J.H. (1963) op.cit.

CHAPTER 7

WREXHAM IN 1871

7.1 Introduction

Between the 1861 census and the next in 1871, the town of Wrexham continued to develop and grow, maintaining its position as the centre of the north-east Wales coalfield. In 1871, nearly nine thousand individuals were enumerated in the census,⁽¹⁾ and the records from this census have survived intact. Again, both a Principal Components analysis⁽²⁾ and a Cluster analysis⁽³⁾ were undertaken on the 1871 data set which was composed of one hundred and sixty-one street units⁽⁴⁾ identified from the census (Figure 7.1) and the same forty-two variables used in earlier analyses and already detailed elsewhere (see Chapter 2, Figure 2.6). Again, in a similar fashion to the earlier analyses and to maintain comparability, the first four components to emerge from the Principal Components analysis were examined in detail. The component scores associated with each of these components were again grouped into sextiles around the median prior to mapping and the resulting patterns are presented below. Similarly Ward's Error Sum procedure was applied to the same data set,⁽⁵⁾ and the results of this Cluster analysis are presented in Figure 7.12.

Figure 7.1
1871: Street units identified from the census
 (total of 161)

Mount Street	Military Depot
Church Hill	Roxburgh Place
Salop Road	Hill Street
Tuttle Street	Egerton Street
Yorke Street	Harrisons Court, Abbot Street
Kings Mills	Cannon Court, Abbot Street
Wrexham Fechan	Jones Court, Brook Street
Eagle Street	Well Court, The Walks
Caia	Brewery Place
Madeira Hill	Bates Square, Tuttle Street
Barnfield	Foundry Road
Coed y Glynn	Poplar Road
Sontley Hill	Chapel Street
Charles Street	Ruabon Road
Cutlers Entry	Prospect Square
Beast Market	Victoria Place, Bridge Street
Theatre Lane	Horns Yard, Bridge Street
Crescent Terrace	College Court
High Street	Stokes Court, Penybryn
Henblas Street	Tenters Square
Chester Street	Jones Yard, Bridge Street
Lampit Street	Edwards Court, Bridge Street
Queen Street	Mary Ann Square
Holt Street	Jones Court, Pentrefelin
Groves School	Chapel Square, Pentrefelin
Groves Lodge	Pearces Square, Pentrefelin
King Street	Danes Court, Pentrefelin
Brook Street	Picton Terrace
Vicarage Hill	Parrys Court, Poplar Road
Abbot Street	Stretches Court, Chapel Street
Town Hill	Bryndraw Terrace
Church Street	Mivor Terrace
Hope Street	Wellington Road
Hope Road	Erddig Terrace
Bryn y Ffynnon	Bryn Isaf Terrace
Priory Street	Cambrian Brewery Yard
Well Street	Smiths Court, Bridge Street
The Walks	Brewery Yard, Brook Street
Yorkshire Square	Castle Square, Pentrefelin
Erddig Road	Castle Yard, Pentrefelin
Penybryn	Trails Court, Belle Vue Road
Bridge Street	Workhouse Lane
College Street	Penybont
Pentrefelin	Holt Road
Isle of Man	Well Court, Well Street
Belle Vue Road	Regent Place
Thornley Square	McDermotts Building, Yorke Street
Tenters School	Chapel Building, Salop Road
Bridewell	Grove Park
Owens Court, Beast Market	Grosvenor Road
Prices Court, Holt Street	Lorne Street
Temple Row	Springfield Terrace
Bear Court, Yorke Street	Bank Place, Hope Street
Hughes Court, Yorke Street	Fairfield Street
Mount Place	Ar-y-bryn Terrace, Poplar Road
Jones Court, Mount Street	Earl Street
Browns Court, Mount Street	John Street
Jones Square, Mount Street	Hilly View, Erddig Road

....continued...

Figure 7.1 (continued)
1871: Street units identified from the census
 (total of 161)

Alcocks Court, Mount Street	High Town
Williams Court, Mount Street	Albert Street
Havelock Square, Salop Road	Stanley Street
Gibbons Court, Salop Road	Derby Road
Alma Terrace	Overton Arcade
Salisbury Park	Williams Court, Chester Street
Willow Road	Holt Street Buildings
Mount Pleasant	Holt Street Terrace
Smiths Court, Charles Street	Park View, Holt Street
Albert Place, Beast Market	Regis Place
Roberts Square, Beast Market	Edwards Court, Lampit Street
Farndon Street	Caravan, Beast Market
Harrisons Court, Farndon Street	Evans Row, Farndon Street
Victoria Place, Farndon Street	Market Street
Kenricks Row, Farndon Street	Prices Yard, Market Street
Holt Court	Rhosddu
Harrisons Court, Chester Street	Salop Terrace, Greenfield
Grove Road	Greenfield
Rhosddu Road	Greenfield Terrace
Jones Court, Hope Street	Park Street, Rhosddu
Brades Court, Hope Street	Providence Terrace
Regent Street	Walters Cottages
Chevet Hey	

Source: 1871 Census.

7.2 Component One: Socioeconomic Status (i)

The first component to emerge from the 1871 Principal Components analysis had an eigenvalue of 5.80708 and this axis accounted for some 13.8% of the total variance within the data set.⁽⁶⁾ Those variables with the highest positive eigenloadings on this axis, reveal that this component was essentially concerned with socioeconomic status:

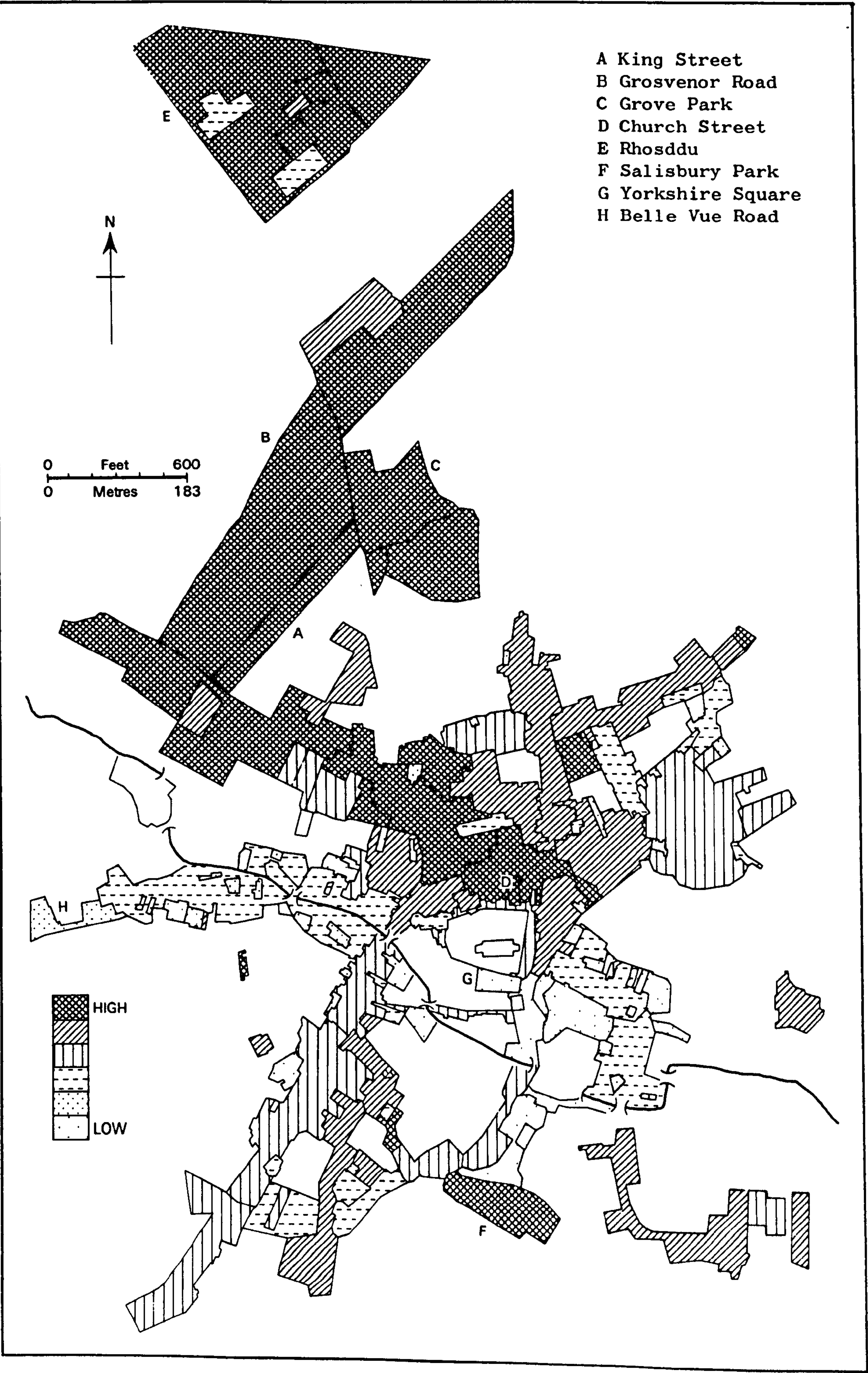
Eigenloading	Variable Number and Title (7)	
0.79873	V.19	% of households with domestic servants.
0.74233	V.14	% of Total Adult Population (T.A.P.) in Socioeconomic Groups (S.E.G.s) 1 and 2.
0.72698	V.11	% of Household Heads in S.E.G.s 1 and 2.
0.70208	V.20	Mean number of domestic servants.

At the other extreme, at the negative end of the axis, the only significant variable was concerned with the percentage of the total adult population who were returned as labourers (v.41).

The component scores associated with this first component are presented in Figure 7.2, and immediately it is apparent that those areas with high component scores and which were therefore the higher status areas in 1871, show a clear bias towards the north-west sector of the town. It has already been shown that this north-western periphery was the main region of

Figure 7.2

1871 : Component One : Socioeconomic Status (i).



residential development in Wrexham from the 1830s onwards,⁽⁸⁾ and Figure 7.2 confirms that it had maintained its position at the forefront of higher status development in 1871. In the decade following the census of 1861, developments which were initiated in the late 1850s, both in Grove Park and further north in Rhosddu, had gathered momentum and by the time of the next census in 1871, several new streets had become fully inhabited. Thus, in that year, older, established higher status streets such as King Street (marked A on Figure 7.2) and Egerton Street were being challenged and even surpassed by the newer developments of Grosvenor Road (marked B on Figure 7.2), Grove Road and Grove Park (marked C on Figure 7.2).

Newspaper reports from the late 1850s onwards detailed the developments which occurred in this peripheral location and such reports reveal the grand nature of the building undertaken here:

"The new street formed some time ago out of a portion of this park (Grove Park)... has recently received an addition to the two houses which graced each end of the road. We allude to the two Italian villas erected by Mr. Jones, of Yorke-street, chemist. They have an elegant appearance and the accommodation appears to us superior to that generally found in the same class of house... The whole of the land is now sold, and building operatives we hope will find employment, next Spring, in what promises to be an ornament of the town - the Belgravia of Wrexham.... Thanks to the foresight and judicious care of the vendor of the land, we shall not see in Grove Park the ludicrous sights which meet the eye at the west end of King

Street, - looking towards the town. The most prominent house in this view has very much the appearance of a cottage near Gresford, which was built in one night upon common land, such sharp work being supposed to give the cute squatter, a right to the freehold..." (9)

This newspaper report suggests that the development of the former Grove Park was constrained in some way, by certain conditions included in the sale of the land, thereby ensuring that only superior residences were constructed. Certainly such actions had influenced the sociospatial pattern that emerged in 1871, since this area was clearly inhabited by individuals of superior socioeconomic status. Such conditions had not been imposed on King Street however, and already by 1858 that street had apparently begun to decline in terms of status. Even so, although King Street had declined in relative terms, when compared with these nearby, newly developed roads which had become the main focus of attention, it still forms part of sextile one in Figure 7.2. The development of Grove Park occurred at irregular intervals and it took several years for these roads to be fully occupied:

"...Amongst the new thoroughfares that have been opened, Grove Road as yet takes the lead, terminating as it does in two pleasant roads - one lined with rows of stately elms, and the other skirted by the Spring Gardens and a number of modern villa residences which will always render the locality one of the most attractive suburbs of the town. The plots of building ground in Grove Road are not being filled up as rapidly as we could

wish, still we have now and then the gratification of seeing an additional residence built, and we trust shortly to see the land on the north side entirely so occupied. The last addition is a villa residence recently completed by Mr. S.T. Baugh. The design is unique and very pleasing. It is after the English-domestic style, which prevailed during the latter period of the fourteenth century... We hope to see our town surrounded by such tastefully designed villas; and it would be well if all gentlemen intending to build, would consult some efficient professional man, and thus save themselves from useless expense, vexation and perhaps a little ridicule." (10)

Thus throughout the 1860s, superior residences of varied styles were being built in this north-western region and by 1871 the area had become occupied by inhabitants of higher socioeconomic status, as clearly shown both by Figure 7.2 and when the original data from the census are examined (Figure 7.3). From Figure 7.2 it can be seen that this higher status sector extended from the north-western periphery to the town centre by way of Regent Street and Hope Street. The higher status commercial streets include High Street and Church Street (marked D on Figure 7.2), both of which had maintained their superiority throughout the period of this analysis. Other commercial streets record somewhat lower component scores in Figure 7.2, but their scores are still relatively high (sextile 2). It is clear from this figure that Regent Street and Hope Street act as a high status routeway linking the higher status peripheral roads and the commercial

Figure 7.3
1871: Socioeconomic Status

% of Household Heads in selected streets classed in socioeconomic groups:

Street:	1 & 2	3	4 & 5
Mount Street	9.30	74.42	9.30
Church Hill	0.0	14.29	71.43
Salop Road	4.0	40.0	52.0
Tuttle Street	0.0	50.0	45.83
Yorke Street	36.0	48.0	12.0
Wrexham Fechan	19.35	58.06	16.13
Eagle Street	6.25	37.50	56.25
Barnfield	7.69	30.77	61.54
Charles Street	30.0	65.0	0.0
Beast Market	10.2	61.22	22.45
High Street	45.45	45.45	0.0
Chester Street	30.43	47.83	13.04
Queen Street	38.89	55.56	5.56
Holt Street	20.83	41.67	29.17
King Street	21.74	43.48	4.35
Brook Street	2.38	73.81	23.81
Church Street	0.0	100.0	0.0
Hope Street	5.13	89.74	0.0
The Walks	0.0	68.75	25.0
Yorkshire Square	0.0	21.21	69.7
Erddig Road	11.9	64.29	16.67
Pentrefelin	6.25	43.75	50.0
Isle of Man	0.0	25.0	68.75
Belle Vue Road	3.13	50.0	34.38
Bear Court, Yorke Street	0.0	33.33	66.67
Browns Court, Mount Street	0.0	0.0	100.0
Havelock Square, Salop Rd.	12.5	62.5	12.5
Gibbons Court, Salop Rd.	0.0	66.67	33.33
Salisbury Park	50.0	33.33	0.0
Smiths Court, Charles St.	0.0	33.33	66.67
Grove Road	50.0	50.0	0.0
Regent Street	30.43	43.48	8.7
Roxburgh Place	18.18	54.55	18.18
Egerton Street	0.0	100.0	0.0
Brewery Place	0.0	28.57	71.43
Chapel Square, Pentrefelin	0.0	16.67	75.0
Grove Park	57.14	28.57	0.0
Grosvenor Road	71.43	21.43	0.0
Lorne Street	7.41	55.56	14.81
Stanley Street	44.44	33.33	22.22
Market Street	2.08	54.17	39.58
Rhosddu	18.92	35.14	21.62
Salop Terrace, Greenfield	66.67	33.33	0.0
Park Street, Rhosddu	0.0	88.89	11.11

Source: 1871 Census.

streets of the town centre, thereby allowing wealthier individuals to avoid the less salubrious areas of the town.

Also in the north of the town, much of the developing region of Rhosddu (marked E on Figure 7.2) also records high component scores in Figure 7.2, but two streets return more moderate scores due to the presence of pockets of inhabitants in the former village nucleus.

Apart from this northern peripheral region of the town, essentially the only other area with a very high score on component one in 1871 was Salisbury Park (marked F on Figure 7.2), 'another newly developed residential area on the southern edge of Wrexham. Salisbury Park had emerged in the analysis for 1861 as an area of higher status (see Chapter 6, Figure 6.2), and it had maintained this position over the next decade. Several other streets in the south of the town including Erddig Road and Wrexham Fechan also return relatively high scores in Figure 7.2, as does The Caia farm on the eastern periphery which has already been isolated as being somewhat anomalous in terms of this analysis of Wrexham.

At the negative pole of this first axis, areas dominated by inhabitants of lower socioeconomic status emerge in Figure 7.2 with low component scores and in general such areas are scattered throughout the town. Most of these low scoring areas are small courts but the main concentration is located to the south-east of

the churchyard, a region which had already emerged in the earlier years of this analysis as being dominated by inhabitants of lower socioeconomic status. The lowest scores include Yorkshire Square (marked G on Figure 7.2) and Tuttle Street along with several courts in the adjoining streets (Yorke Street, Mount Street and Salop Road) but they also extend across the river into Barnfield (see also, Figure 7.3).

The only other area which had consistently emerged in this analysis as being inhabited by families of lower socioeconomic status was the region along the river in the west of the town, and in Figure 7.2 many of the courts here again record low scores. In 1871 such courts include those in both Pentrefelin and The Walks as well as those in Brook Street. Similarly, a low component score was recorded by the adjoining Belle Vue Road (marked H on Figure 7.2) which had continued to decline in terms of status since its initial development in the middle of the century (Figure 6.2).

This whole region, bordering the river in the west of Wrexham, retained a relatively lowly status in 1871 and in some parts conditions were extremely bad. At a monthly meeting of the Local Board in 1869, houses in this area which were unfit for human habitation were discussed:

"...The cottages in the Walkswere totally unfit for habitation.... There were some cottages which it was decided should be done away with four or five years ago, but nothing had been done, and

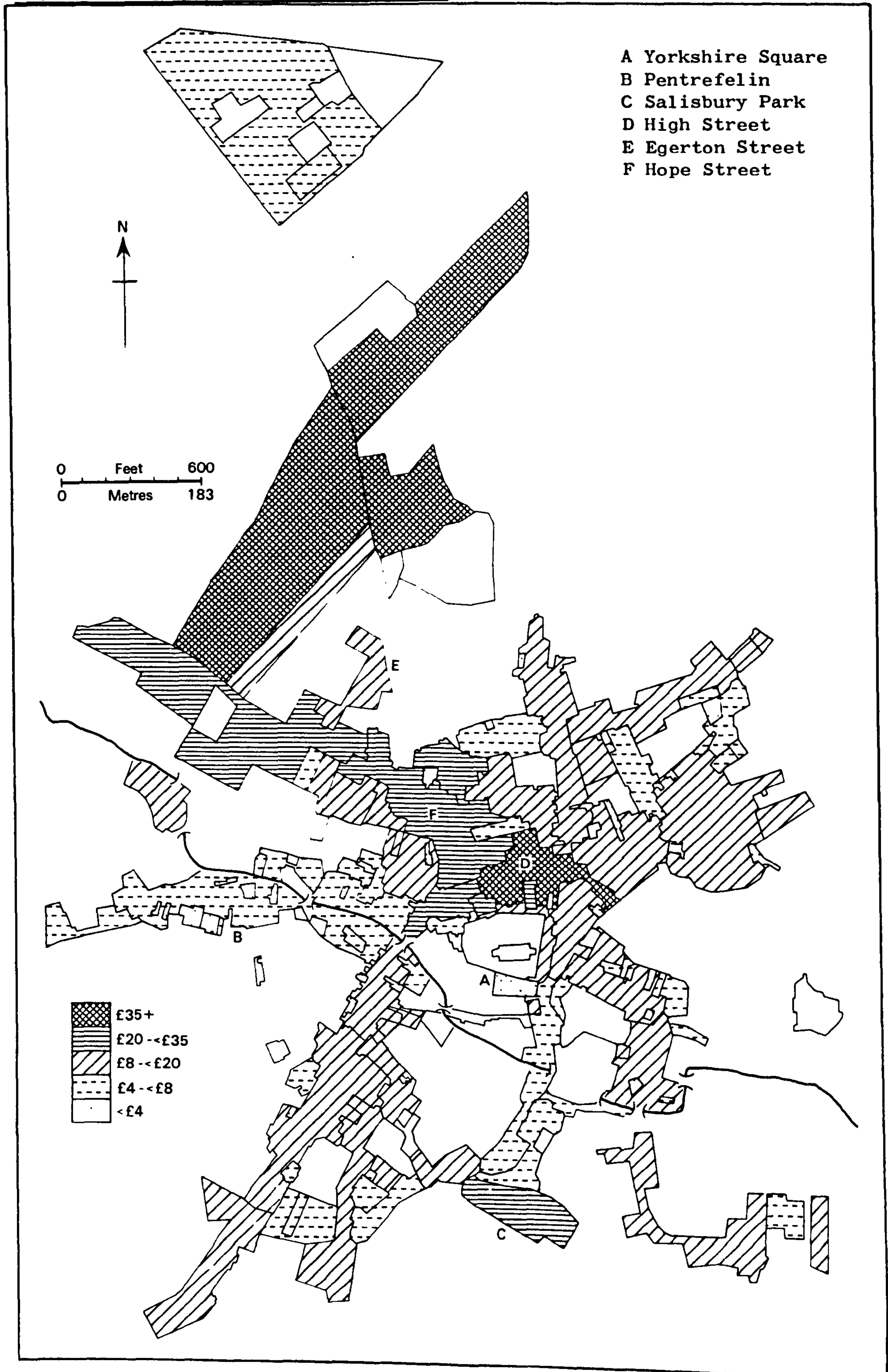
they still remained. They were in such a state that they were totally unfit for anything decent.... In the Walks there were eight cottages with only two privies; and in many cases there were large families who had only one room to dwell in.... Crossing over into Pentrefelin, to the Isle of Man, there were a number of cottages totally unfit for habitation. There was one there with a large family living in a room, ten feet long and fourteen feet wide..." (11)

In general, the pattern which emerges for 1871 and is shown in Figure 7.2, confirms the general trends in terms of socioeconomic status which have been apparent in Wrexham throughout the whole period under discussion. Essentially the town can still be divided into two distinct regions - the low status region bordering the length of the river Gwenfro, from the western periphery of Wrexham to that area to the south-east of the churchyard; and secondly, the obvious higher status sector extending from the north-western periphery to the centre of the town.

This basic pattern is duplicated if one examines the average annual rateable values for each street in Wrexham in 1871.⁽¹²⁾ These rateable values are presented in Figure 7.4 and a comparison of this figure with that relating to the first component of the Principal Components analysis (Figure 7.2) immediately reveals a similarity in the basic patterns. In Figure 7.4, the lowest average annual rateable values (under £4) are found in the numerous courts scattered throughout the town as well as in the infamous

Figure 7.4

1871 : Average Annual Rateable Values.



Yorkshire Square (marked A on Figure 7.4). It has already been shown in Figure 7.2 that it was these areas where members of the lowest socioeconomic groupings could be found in 1871, thus confirming that lower status households did indeed occupy the poorer rateable streets and courts. Similarly, in general terms, those areas which emerge in Figure 7.4 in the second category (with an average annual rateable value of between £4 and £8) were also inhabited by lower status households if compared with Figure 7.2. Included in this category are Brook Street, The Walks and Pentrefelin (marked B on Figure 7.4) bordering the river in the west, with the only other concentration of streets being to the south-east of the churchyard and extending across the river to another area inhabited by high proportions of lower status households.

In direct contrast, the highest rateable values dominate the north-western sector of the town, with the one exception of Salisbury Park (marked C on Figure 7.4) which is located to the south of the town. Again, such a pattern corresponds very well with the locations of streets dominated by inhabitants of higher socioeconomic status (Figure 7.2). The highest average rateable values (more than £35 annually) are returned by the newest developments in Wrexham - Grove Road, Grove Park and Grosvenor Road, along with the prestigious commercial street - High Street (marked D on Figure 7.4). By 1871 these newer roads had succeeded King Street and Egerton Street (marked E on

Figure 7.4) as the premier streets in Wrexham with the latter streets declining in terms of status over the preceding decade. This is confirmed if Figure 7.4 is compared with Figure 6.6 (Chapter 6) which shows the average annual rateable values for 1859.

The main streets linking the developing north-western periphery and High Street, also record relatively high average annual rateable values in Figure 7.4 with such streets as Regent Street, Hope Street (marked F on Figure 7.4) and Queen Street having average rateable values of between £20 and £35. No doubt the developing higher status of the peripheral roads benefitted these adjoining streets and resulted in the rise in rateable value which had occurred since 1859 (compare with Figure 6.6 for the situation at the earlier date).

Away from this north-western periphery and the adjoining service roads, the only other area in Wrexham in 1871 which displayed a high average annual rateable value was Salisbury Park, located on the extreme southern edge of the town (see Figure 7.4). In 1871, this Park had also only recently been developed and again its inhabitants were dominated by those of higher socioeconomic status, as shown in Figure 7.2. In many respects, Salisbury Park had more in common with the north-western region than its immediate, southern neighbours since it also represents the peripheral movement of the higher status population of Wrexham away from the overcrowded, older, central area.

The only other feature of note in the spatial pattern which emerges in Figure 7.4, is the relatively low average annual rateable value (between £4 and £8) returned by Rhosddu, which was also undergoing development in 1871. No figures were available for some of the newer developments being built in Rhosddu at this time but the presence of an older community is confirmed by the low rateable value returned. It was into this older village community that some newer, higher status developments were introduced throughout the later nineteenth-century.

In general terms however, Figure 7.4 reveals the same overall pattern as Figure 7.2, which was concerned with the first, socioeconomic component to emerge from the Principal Components analysis. We now turn to examine the second component resulting from this analysis, which to some extent was also concerned with socioeconomic status.

7.3 Component Two: Socioeconomic Status/Life Cycle

The second component to emerge from the Principal Components analysis of the 1871 census data, had an eigenvalue of 4.75011 and accounted for some 11.3% of the total variance in the data set. An examination of the eigenloadings associated with this component reveals its underlying character to be that of a bipolar axis concerned with both socioeconomic status and the life cycle. The highest eigenloadings are

returned by the following variables:

0.82860	V.15	% of T.A.P. in S.E.G. 3.
0.67899	V.12	% of Household Heads in S.E.G. 3.
0.53460	V.36	% of T.A.P. in Manufacturing. (7)

Such variables suggest that those areas with high component scores on this second axis were essentially of working-class character, with streets being dominated by inhabitants classed in the large socioeconomic group three. Of these, individuals engaged in manufacturing activities were particularly important. At the other extreme, the negative pole of the axis seems to have been characterised by variables concerned with the family life cycle, with the lowest (highest negative) eigenloadings being returned by the following variables:

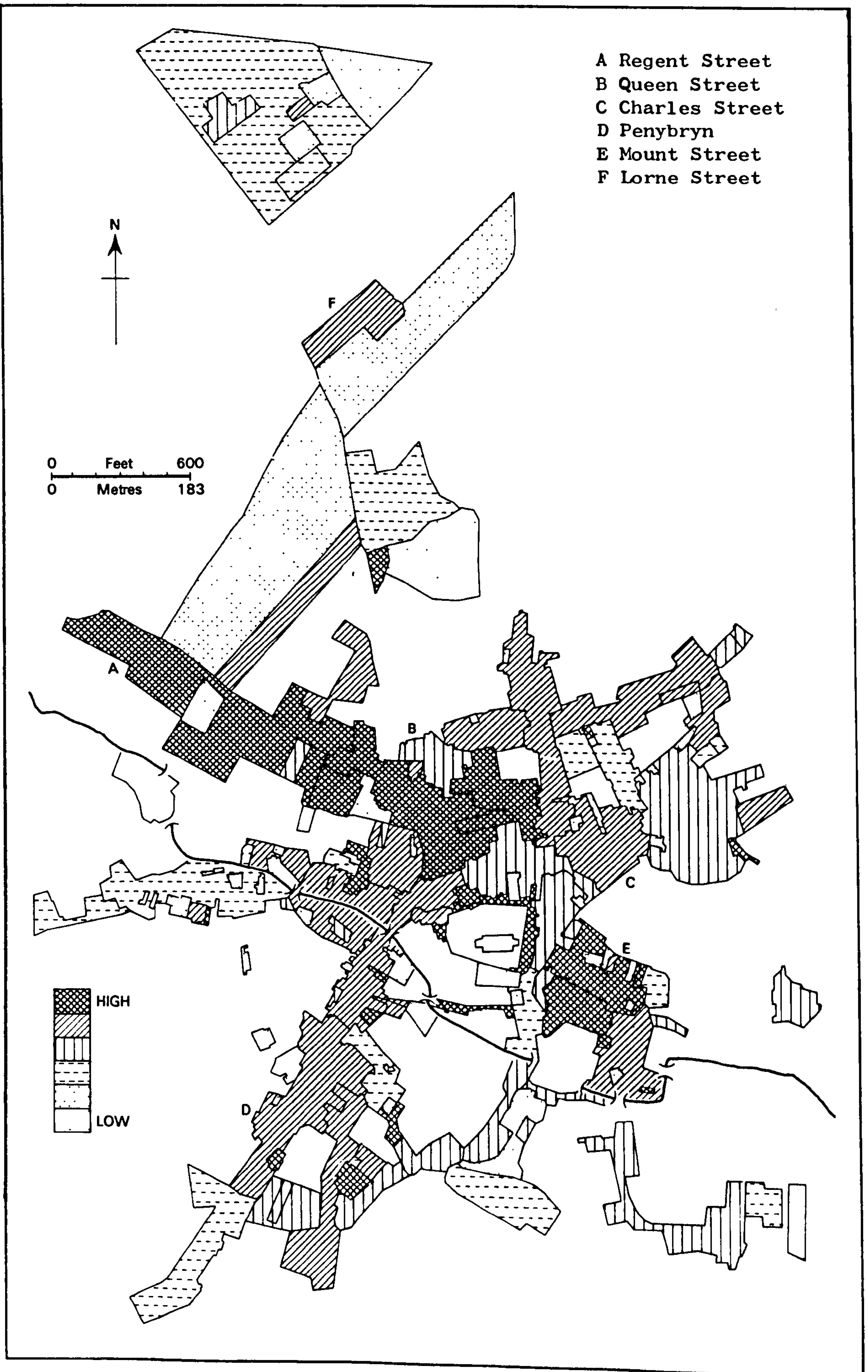
-0.64196	V.25	% of total population aged 0-14 years.
-0.51830	V.24	% of total population aged 0-4 years.
-0.51426	V.29	Fertility Ratio. (7) (13)

Thus those streets with the lowest component scores were dominated by young families and households with relatively large numbers of children, at an early stage in the family life cycle.

The component scores relating to this second axis were again grouped into sextiles around the median and the results are presented spatially in Figure 7.5.

Figure 7.5

1871 : Component Two : Socioeconomic Status / Life Cycle.



Immediately it is apparent that this figure reveals a more complex pattern, due in part at least, to the complex bipolar character of the component itself. In Figure 7.5, those streets with the highest component scores are located on the main routeways into the town, and consequently they include many of Wrexham's main streets. The highest scores (those in sextile one) are returned by those streets which, in 1871, linked the higher status, north-western, developing area and the commercial centre. In some ways it is surprising that Regent Street (marked A on Figure 7.5), Hope Street and several adjoining streets all record high scores on this second axis since these streets also recorded high component scores on the first axis to emerge in this analysis (Figure 7.2), which indicated the importance of higher status residents in these streets.

Such results are probably due to the method of classification used to allocate occupations into socioeconomic groupings. In this analysis, the method employed relied very heavily on the work of Armstrong,⁽¹⁴⁾ which, when used in earlier studies had also resulted in an enlarged socioeconomic class three. This analysis was no exception, and in addition, the occupations grouped into socioeconomic group three included those associated with commercial activities such as traders, dealers and shopkeepers. From Figure 7.5, it is apparent that this method of classification has produced the result that all the main commercial

streets of Wrexham have high component scores on this second axis. Thus, those streets such as Hope Street and Queen Street (marked B on Figure 7.5) which certainly had important numbers of higher status individuals amongst their residents also record high component scores in Figure 7.5, due to the presence of a shopkeeping population. This is indeed confirmed if Figure 7.3 is examined. Other commercial streets including Charles Street (marked C on Figure 7.5) and Chester Street with adjoining streets in the north-east of the town, and the important southern routeway formed by Town Hill, Bridge Street and Penybryn (marked D on Figure 7.5) also record high component scores in Figure 7.5 for similar reasons.

High component scores are also returned by several streets in the region to the south-east of the churchyard, including Mount Street (marked E on Figure 7.5) and the adjoining Mount House and Salop Road. Throughout the period of this analysis, this region had been undergoing something of an improvement in terms of the socioeconomic status of its residents and Figure 7.5 confirms the continuation of this process to 1871. Even so, in that year, this region was predominantly working-class, while in some parts, particularly the courts, conditions remained very unpleasant.

The final streets of interest, which record high component scores in Figure 7.5 are King Street (sextile two) and the neighbouring Egerton Street. Such scores confirm the partial eclipse of these streets as the

most prestigious roads in the town, by the neighbouring newly-developing roads. At the same time, one of these newly-developing streets, Lorne Street (marked F on Figure 7.5) also records a high scores (sextile two), suggesting possibly that it was aimed at a lower status market than either Grove Road or Grosvenor Road (see also, Figure 7.3). The latter both return low scores in Figure 7.5, thus emphasising the differences in character between themselves and the earlier developments.

Throughout the 1870s, a residence in this north-western suburb was still the goal of a socially mobile population in Wrexham, and problems associated with suburban living were discussed in the newspapers of the period. Thus, when vagrancy became a problem within the town, the following report appeared:

"We have had our attention called to the enormous amount of vagrancy now existing in the town and neighbourhood, the annoyance it gives families, more especially in the suburbs of the town, and the total indifference of the police to the subject.... A gentleman residing in King Street informs us that the visits from this class have amounted to fifty in a day... In many cases when the head of the house is absent at business, our wives and families are intimidated into giving assistance to undeserving persons and able-bodied beggars by the practise now adopted of going about in couples..."(15)

Obviously, from the above, at this time King Street was still considered to be part of this

prestigious suburb, although as we have seen, two years later something of a decline in terms of status was readily apparent.

The dominant characteristic of streets with low component scores on this second axis for 1871 was the youthfulness of their populations, with children being particularly important. Thus the low scores returned by both Grove Road and Grosvenor Road (Figure 7.5) are indicative of the importance of children in these roads (Figure 7.6). This is quite a marked contrast to King Street, where elderly residents had remained important and even strengthened their position when compared with ten or twenty years earlier (Figure 6.8, Chapter 6). This "ageing" of King Street was probably due to the sedentary nature of its population with few residents moving out over the decade since 1861, thereby causing the age structure of the street to become more elderly. Younger, wealthy inhabitants of Wrexham were more likely, and given more opportunity, to move into the newer, developing streets in this north-western suburb. Thus it would appear that by 1871 elderly, but wealthy residents of Wrexham were giving way to an emerging wealthy, but younger population, which was now important in even the most prestigious locations. One other unit in this region, Grove School, also emerges in Figure 7.5 with a very low score on component two, due to its specialised function as a boarding school with a large number of resident pupils (Figure 7.6).

Figure 7.6
1871: Age of the Population

% of the total population in selected streets in various age groups:

Street:	0-4 Years	0-14 Years	15-59 Years	60+ Years
Barnfield	26.2	50.8	40.0	9.2
Theatre Lane	21.7	47.8	47.8	4.3
High Street	6.0	19.5	76.7	3.8
Grove School	2.9	52.2	47.8	0.0
King Street	4.2	19.3	63.9	16.8
Yorkshire Square	14.6	38.2	52.0	9.8
Erddig Road	11.6	33.7	62.1	4.2
Owen's Court, Beast Mkt.	21.4	52.4	42.9	4.8
Bear Court, Yorke St.	28.6	64.3	35.7	0.0
Hughes Court, Yorke St.	26.7	60.0	40.0	0.0
Jones Court, Mount St.	18.8	50.0	50.0	0.0
Alcocks Court, Mount St.	30.3	51.5	48.5	0.0
Gibbons Court, Salop Rd.	11.8	53.0	47.1	0.0
Salisbury Park	8.7	21.7	69.6	8.7
Harrisons Court, Farndon St.	15.6	59.4	40.6	0.0
Grove Road	7.9	23.7	68.4	7.9
Rhosddu Road	26.1	52.2	47.8	0.0
Well Court, The Walks	23.1	57.7	42.3	0.0
Ruabon Road	17.6	37.8	60.5	1.7
Horns Yard, Bridge St.	21.4	57.1	35.7	7.1
Davies Court, Pentrefelin	14.6	53.6	36.6	9.8
Well Court, Well St.	12.5	56.3	31.3	12.5
Grove Park	3.5	33.3	57.9	8.8
Grosvenor Road	17.1	32.4	65.8	1.8
Lorne Street	11.1	27.8	64.3	7.9
Stanley Street	20.3	50.8	49.2	0.0
Price's Yard, Market St.	27.3	63.7	36.4	0.0
Rhosddu	10.4	32.8	61.5	5.7

Source: 1871 Census.

As can be seen in Figure 7.5, away from this north-western sector of the town low component scores are scattered throughout Wrexham. Amongst these areas, many courts and poorer areas are to be found including the Barnfield and, to a lesser extent, Yorkshire Square (Figure 7.6). In general terms, the courts usually had more youthful populations than the streets in which they were located and the coincidence of poorer areas with youthful populations was an enduring feature in Wrexham as in many other towns throughout the middle decades of the nineteenth-century.

Thus, the second component to emerge in this Principal Components analysis for 1871 was relatively complex and to some extent, less successful than other components to emerge from the analyses for earlier dates. Because it dealt with both socioeconomic and family life cycle characteristics, this axis was harder to interpret and the pattern which resulted was more confused. However, many features of the town which did emerge corresponded very well with our earlier understanding of Wrexham's social structure.

7.4 Component Three: Socioeconomic Status (ii)

The third axis of differentiation which emerged, component three, had an eigenvalue of 3.42190 and accounted for some 8.1% of the total variance in the data set for 1871. Isolation of the significant

variables on this axis at both the positive and negative poles, reveals that this component was essentially concerned with socioeconomic status, although some aspects of ethnic status and family life cycle were also involved. At the positive pole, the highest eigenloadings were returned by the following variables:

0.69951	V.16	% of T.A.P. in S.E.G.s 4 and 5.
0.54463	V.23	Mean age of Household Head.
0.50183	V.9	% of the population born in Ireland.
0.49849	V.13	% of Household Heads in S.E.G.s 4 and 5.
0.40715	V.27	% of total population aged 60+ years. (7)

These variables suggest that the residents of streets and courts with high component scores on this third axis were relatively poor and of low socioeconomic status, with individuals born in Ireland being of particular importance, along with those of advanced age. At the other extreme, the lowest eigenloadings (highest negative) were recorded by these variables:

-0.54185	V.24	% of total population aged 0-4 years.
-0.47792	V.12	% of Household Heads in S.E.G. 3.
-0.47675	V.25	% of total population aged 0-14 years. (7)

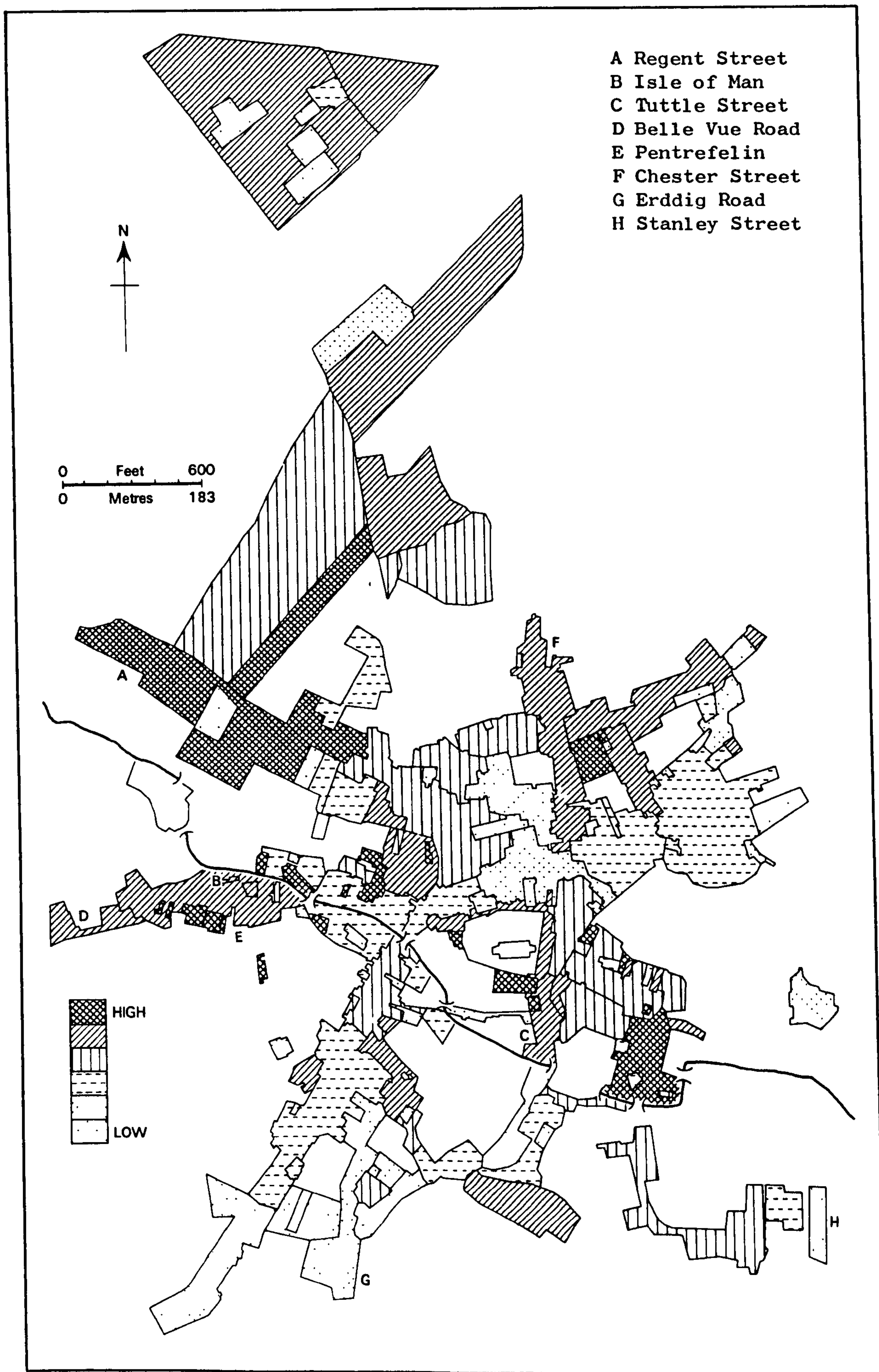
Thus, amongst those streets which displayed low component scores on this axis, the one important, common feature was the presence of children in the households.

The component scores associated with this third axis were again grouped into sextiles around the median, and the results are presented spatially in Figure 7.7. As would be expected from the nature of this third component, many courts scattered throughout Wrexham record high scores (sextile one) in Figure 7.7, but more surprisingly so do both King Street and the adjoining Regent Street (marked A on Figure 7.7). These high scores can be explained by the presence of "live-in" servants in higher status households with elderly household heads. These servants would have been classified in the lower socioeconomic groups due to their occupation but in real terms, the areas in which they lived were of much higher status. In a similar way, the relatively high scores returned elsewhere in the north-western sector of the town, including Grove Road and Grove Park (sextile two) can be explained, as can the score for Salisbury Park in the extreme south of Wrexham.

Other high component scores in Figure 7.7 are returned by streets and courts which have already emerged as being inhabited by households of relatively low socioeconomic status. These include many locations along the river Gwenfro, such as Pentrefelin and Isle of Man (marked B on Figure 7.7) in the west and the low

Figure 7.7

1871 : Component Three : Socioeconomic Status (ii).



status area to the south-east of the churchyard which includes Salop Road, Yorkshire Square and Tuttle Street (marked C on Figure 7.7). It has already been shown in the analyses for earlier dates that it was precisely in such areas that individuals born in Ireland were important within the town, so it is clear that this Irish population remained an enduring feature of certain areas of Wrexham.

In 1871, some 6.9% of the total population of the town had been born in Ireland, a reduction over the previous ten years of 1.7%, from 8.6% (Figure 7.8). However, in terms of real numbers this represents a slight increase over the decade, from 573 persons in 1861 to a total of 612 in 1871 (Figure 7.8). If this comparison is extended back further, it is clear that the numbers of Irish-born in Wrexham had increased over the whole period of this analysis, with the main advance occurring between 1841 and 1851 and then slowing down in subsequent decades (Figure 7.8).

Figure 7.8
Wrexham's Irish Population, 1841-1871

Year	Irish-born as a % of the Town's Total Population	Actual Number
1841	3.7%	180
1851	8.4%	564
1861	8.6%	573
1871	6.9%	612

Source: Census

In general, this Irish-born population had remained located in the same areas over the whole period, although some outward dispersal did occur and concentrations within individual streets declined. One example of this is Belle Vue Road (marked D on Figure 7.7), in the extreme west of the town and adjoining Pentrefelin and Brook Street, traditional areas of Irish-born residents. In 1851, none of the inhabitants of Belle Vue Road had been born in Ireland, but twenty years later, some 4.6% of the total Irish-born population of Wrexham were located here (Figure 7.9), a total of twenty-eight persons who formed 17.1% of the road's total inhabitants. Thus Belle Vue Road was one road which saw an influx of residents of Irish origin, and yet over the same period (1851-1871), the nearby Brook Street suffered a decline in its Irish-born population. By 1871, only 1.3% of the total Irish-born population of Wrexham lived in Brook Street, compared with some 10.3% of the total in 1851 (Figure 7.9). This decline is confirmed if Figure 7.7 is examined and compared with Figure 5.5 for 1851,⁽¹⁶⁾ since in 1871 Brook Street has only a moderate component score on this third axis (sextile four), unlike the adjoining Pentrefelin (marked E on Figure 7.7) and Belle Vue Road which both have much higher component scores.

Between 1851 and 1871, the concentrations of Irish-born residents in all streets in Wrexham declined due to the dispersion of this ethnic group throughout

the town, away from the traditional areas. This process is shown proportionally in Figure 7.9. As can be seen in Figure 7.9, although Yorkshire Square maintained the highest concentration at both dates, the actual proportion of the total Irish-born population in Wrexham that the square housed fell from 16.7% in 1851 to only 7.7% in 1871. The proportion that these residents formed of the total population of the square also fell over the same period, from 57.3% in 1851 to 38.2% in 1871, so that over time, the importance of the Irish within Yorkshire Square itself also declined.

Figure 7.9
The Distribution of Irish-born in Wrexham, 1851 and 1871
The proportion of the total Irish-born of Wrexham living in individual streets (in order of importance).

<u>1851</u>		<u>1871</u>	
Street:	%	Street:	%
Yorkshire Square	16.7	Yorkshire Square	7.7
Pentrefelin	11.3	Pentrefelin	4.9
Brook Street	10.3	Mount Street	4.7
Mount Street	10.1	Belle Vue Road	4.6
The Walks	7.1	Picton Terrace	3.9
Tuttle Street	6.2	Tuttle Street	3.6
Isle of Man	4.8	Pearces Square	3.6
Seven Bridge Lane	4.4		
Church Hill	4.1		
(17)			

Source: Census of 1851 and 1871.

Apart from the older, poorer areas bordering the river and the higher status area to the north-west of the town, the only other region where high component scores emerge in Figure 7.7 is to the north-east of the commercial centre. This region includes such streets as Chester Street (marked F on Figure 7.7), Holt Road and Market Street,⁽¹⁸⁾ with the adjoining courts. The emergence of these streets in the second highest sextile suggests that a decline in status had possibly occurred in this region by 1871, with poor, elderly residents dominating rather than those born in Ireland.

In contrast to the above, streets which returned low component scores in 1871 on this third axis, and shown spatially in Figure 7.7, were either working-class older areas or were located on the newly developing town periphery and dominated by young growing families. Into this latter category fall Lorne Street and other streets in the development of Rhosddu, to the north of Wrexham. Low scores are also returned by the developing streets on the southern periphery, including Ruabon Road and Erddig Road (marked G on Figure 7.7) in the south-west, and Stanley Street (marked H on Figure 7.7).

At the town centre, High Street and three adjoining streets also record low component scores in Figure 7.7. These scores were due more to the method of classification used, which grouped commercial occupations into the large socioeconomic group three

and which formed an important variable within this component, rather than to the importance of youthful residents within these streets. Apart from those streets already discussed, many courts scattered throughout Wrexham also record low scores in Figure 7.7, and again these courts were dominated in 1871 by children. One anomaly which does again arise in this analysis, is the low component score returned by The Caia farm, on the eastern edge of the town. Earlier in this examination, a problem concerning The Caia was revealed and anomalous results do emerge for the farm. However, it was generally found in the analyses for earlier dates, that The Caia had elderly residents and it is unclear why it should emerge with a low score on this axis for 1871.

In conclusion, nonetheless, many of the social features of Wrexham which had previously emerged, are again confirmed by the spatial patterning associated with this third component, and it would appear that the processes already at work continued in action until 1871 at least. In particular, many characteristics of the town's Irish population are consistent with the results from examinations of other towns for dates throughout the mid nineteenth-century, suggesting that many of the same sorts of processes were occurring in smaller as well as larger towns during this period.

7.5 Component Four: Lodging/Ethnic Status

The fourth component and the final axis which will be examined in detail here, accounted for only 6.0% of the total variance in the data set and had an eigenvalue of 2.51421. In total, the first four components to emerge from the 1871 analysis only accounted for 39.2% of the total variance,⁽⁶⁾ which was relatively low, thus confirming the complexity of the components which did emerge. However, as will be shown below, this fourth component was less complex and more easy to characterise than the previous axes for 1871. Those variables with the highest positive eigenloadings on this axis emphasise an itinerant population within the town:

0.67490	V.32	% of Households with "lodger families" (19).
0.57489	V.4	% of population born in North West England (20).
0.52869	V.17	% of Households with lodgers.
0.49284	V.18	Mean number of lodgers per household (7).

Such variables suggest that those areas or streets which have high component scores on this axis for 1871, were dominated by households in which lodgers played an important role, particularly "lodger families". Such lodging areas were often overcrowded and some regions of Wrexham also probably suffered from this problem. According to the variables above, this mobile

population most importantly originated from the adjoining English counties, at least in these high scoring streets, but individuals from elsewhere must also have been present.

At the negative pole of this fourth axis, only one variable had a significantly low (high negative) eigenloading. This variable - variable one, gives the percentage of the population born in Wrexham itself and it had an eigenloading of -0.55539 . Clearly, therefore, this component was bipolar, differentiating between a mobile immigrant population and a sedentary, locally-born population, at the two extremes of an axis concerned with ethnic status.

As in the previous analyses, component scores were calculated for each of the one hundred and sixty-one street units identified for the analysis of 1871 and these scores were again subsequently grouped into sextiles around the median. The resulting spatial pattern is detailed in Figure 7.10 and immediately it is apparent that the pattern associated with this axis is relatively simple. The presence of "lodger families" is the major characteristic of this axis and this is confirmed if the original data are examined since all streets with high component scores contain such "lodger families" (Figure 7.11). It is this lodging characteristic which is important - the presence of immigrants from the north-western English counties is much less significant.

The main grouping of high component scores shown in Figure 7.10, is found in the lower status region to

Figure 7.10

1871 : Component Four : Lodging / Ethnic Status.

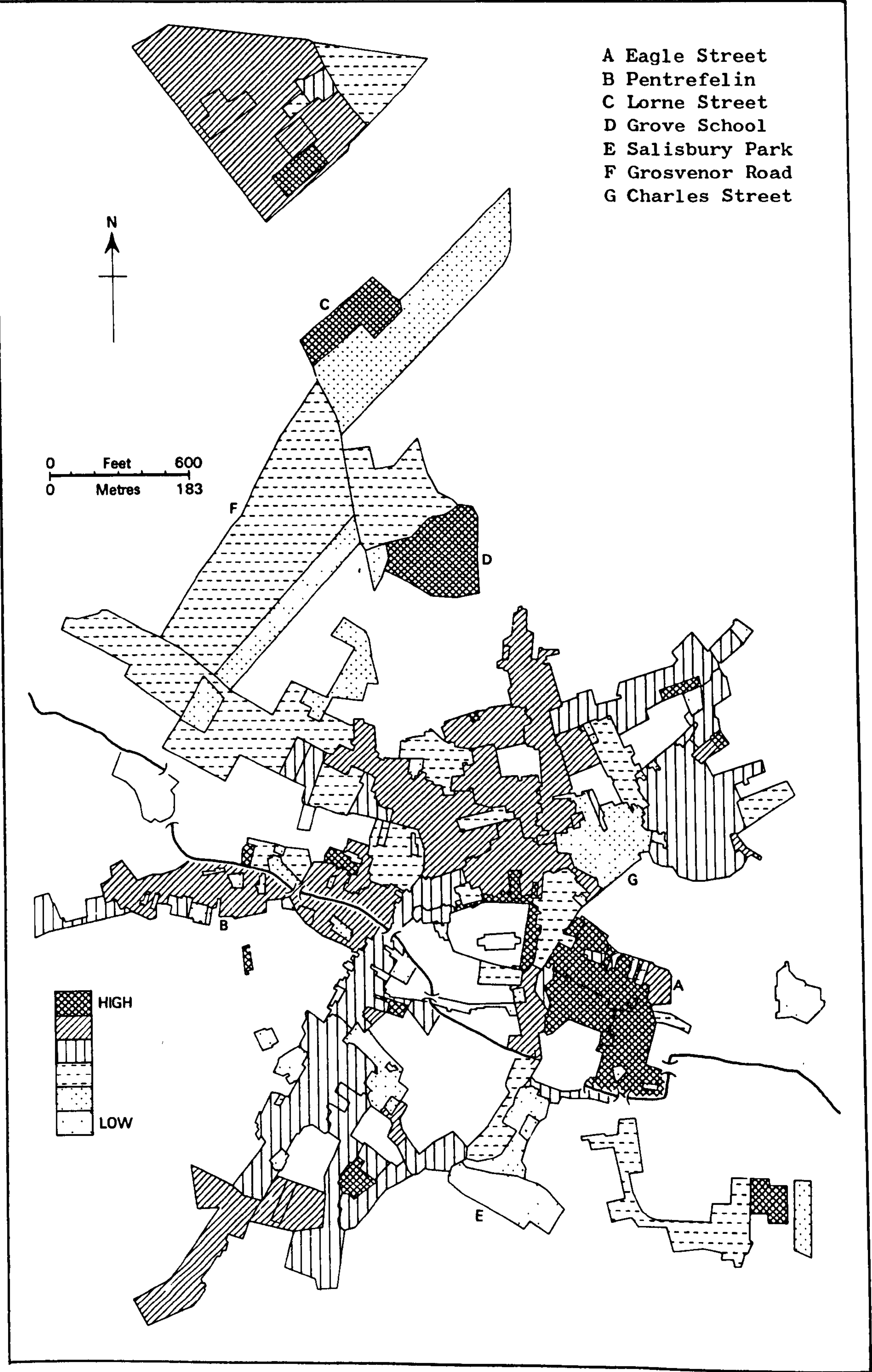


Figure 7.11
Households with "Lodger Families", 1871

% of households in each street with "lodger families".

Street:	%
Mount Street	13.95
Church Hill	14.29
Salop Road	24.0
Tuttle Street	16.67
Eagle Street	6.25
Barnfield	7.69
Theatre Lane	20.0
High Street	9.09
Chester Street	10.87
Lampit Street	13.89
Brook Street	4.76
Town Hill	5.88
Penybryn	2.56
Bridge Street	6.06
Pentrefelin	6.25
Belle Vue Road	6.25
Mount Place	20.0
Jones Court, Mount Street	16.67
Browns Court, Mount Street	25.0
Holt Court, Farndon Street	100.0
Brewery Place	14.29
Mivor Terrace	6.25
Wellington Road	8.33
Bryn Isaf Terrace	20.0
McDermott's Building, Yorke St.	50.0
Chapel Building, Salop Road	20.0
Holt Street Buildings	8.33
Regis Place	11.11

Source: 1871 Census.

Note : These 28 streets were the only streets in Wrexham with "lodger families", in 1871.

the south-east of the churchyard. This grouping comprises Salop Road, Mount Street and Church Hill, along with the adjoining Tuttle Street and Eagle Street (marked A on Figure 7.10). Immediately to the north of the church, very high scores (sextile one) are also returned by Church Street and around the churchyard. This south-eastern region bordering both the churchyard and the river, emerged both in the analyses for earlier years and in 1871, as a lower status area where traditionally lodging was an important element (see Figure 6.11, Chapter 6). Clearly lodging remained important here, even in the third quarter of the nineteenth-century.

The other traditional area of lower status households in Wrexham, those streets bordering the river in the west of the town, also record high component scores on this fourth axis. In 1871, lodging was still an important facet of life in both Pentrefelin (marked B on Figure 7.10) and Brook Street, and in many ways this region had much in common with the area centered on Mount Street. Of interest though, are the low component scores returned by many of the courts in this area as shown in Figure 7.10. These low scores are found particularly in Pentrefelin suggesting that in these courts at least, lodging and particularly "lodger families" were less important and possibly residents of more local origin dominated.

High component scores (sextile two) are also recorded by the central commercial streets, as shown

clearly in Figure 7.10. These streets include High Street and Chester Street, and it is obvious that lodging was an important element in this retailing area. Even as late as 1871, shopkeepers were often craftsmen and shopowners still usually lived above the shop. Throughout the nineteenth-century, shop employees and trade apprentices often lived with their employers as lodgers and it is probable that this was still the case in Wrexham, resulting in the high score on this axis. At the same time, most of the major shopkeepers in the town were English rather than Welsh and it is probable that some originated from the nearby English counties, which comprised the other significant variable on this fourth component. Thus the high scores returned by the commercial streets were due to a combination of factors, the importance of lodging here and, less influentially, the English origins of shopkeepers and employees.

Other high scores for 1871 are returned by some roads in the higher status, north-western sector of Wrexham. Some streets are located in the outlying Rhossdu, which has already been shown to have been of lower socioeconomic status, when compared with the adjoining newly developing roads, due to its former separate village identity. Lorne Street (marked C on Figure 7.10) too, has already emerged as a lower status area and it records a high score on this axis. Similarly, the high score of Grove School (marked D on Figure 7.10) was obviously due to its function as a

boarding school, and this is another example of its specialised nature.

In general however, Figure 7.10 reveals that high component scores are returned for 1871 by streets where it would be expected that lodging was an important feature. Earlier examinations of the socioeconomic structure of Wrexham (Figure 7.2, Figure 7.7), indicated those streets of lower status which had generally persisted throughout the whole period under discussion. As in other towns during the nineteenth-century, lodging was predominantly found in streets dominated by households of lower socioeconomic status but, also in Wrexham, lodging was important in commercial streets, due to the trend of employees and apprentices living above the shop with their employers. Since at this time, retail selling and manufacture were not yet completely separate, trade apprentices usually lived with their employers, as well as shop employees, with vertical segregation within the household being more important than horizontal segregation across the town.

At the other extreme, low component scores compiled on this fourth axis and shown spatially in Figure 7.10, indicate those areas where locally-born individuals were most important. In general, these areas with low scores are much more scattered in their locations throughout the town, particularly those grouped into sextile six, the lowest scores. As well as some of the small courts in Pentrefelin and Brook

Street, other low scores are recorded by some of the newer developments on the southern edge of the town, particularly Salisbury Park (marked E on Figure 7.10) which had previously emerged as being inhabited by residents of relatively high socioeconomic status in 1871 (Figure 7.2). The farm known as The Caia, on the eastern fringe, also returned a low score in Figure 7.10. Traditionally, farming families are very sedentary due to the nature of farm life and inheritance, so that it was very unusual for farmers to be other than locally-born.

Other prominent streets with low scores in Figure 7.10, include both King Street and Egerton Street, two of the premier streets in the town of Wrexham. For the earliest year in this analysis (1841), it was found that King Street was largely composed of locally-born individuals (Figure 4.7) and they were still important here in 1871. However, both in 1851 (Figure 5.9) and 1861 (Figure 6.10) "Wrexhamites" were less important within King Street and did not dominate the residents. In contrast, the adjoining Grosvenor Road (marked F on Figure 7.10), which had possibly surpassed the above streets in terms of prestige, was much less dependent on locally-born residents in 1871 (sextile four) while Grove Lodge and Grove Road again had many inhabitants of local origin (sextile five). Of the main commercial streets, only Charles Street (marked G on Figure 7.10) had a low component score on this fourth axis, indicating that non-English shopkeepers were more

important here, in contrast to the rest of the central area where English shop owners dominated. In 1841, Charles Street was the only street in Wrexham where Scottish-born residents were of any significance (Figure 4.7) and this tradition may have survived the intervening thirty years, particularly among tea dealers (Figure 4.10).

Again, the spatial results shown in Figure 7.10 corresponding to this fourth axis, essentially confirm our previous understanding of the town of Wrexham in 1871. Lodging was particularly important in areas of lower socioeconomic status, along the river Gwenfro and in the commercial centre where employees and apprentices "lived in" with employers. At the same time, locally-born residents were only important in small pockets scattered throughout the whole of the town, without dominating any one particular region.

This discussion of the fourth axis concludes the examination of the results from the Principal Components analysis of Wrexham in 1871. We now turn to examine the results of a Cluster analysis undertaken on the same data set used above, which may reveal additional features of the town's social character in 1871 and also elucidate the results from the earlier analyses.

7.6 Cluster Analysis

As with the earlier analyses of Wrexham for the years of 1841, 1851 and 1861, in addition to the

Principal Components analysis for 1871, the same data set was utilised in a Cluster analysis. For 1871, this data set comprised the one hundred and sixty-one street units identified from the census (Figure 7.1) and the forty-two variables already detailed elsewhere (see Chapter 2, Figure 2.6). The clustering procedure adopted was Ward's Error Sum of Squares method⁽²¹⁾ and again as in the previous analyses, the results of this Cluster analysis were examined at the twelve cluster stage to maintain comparability. These results are presented in Figure 7.12, and the dendrogram associated with the Cluster analysis for 1871 showing the pattern of linkage, is given in Appendix C.

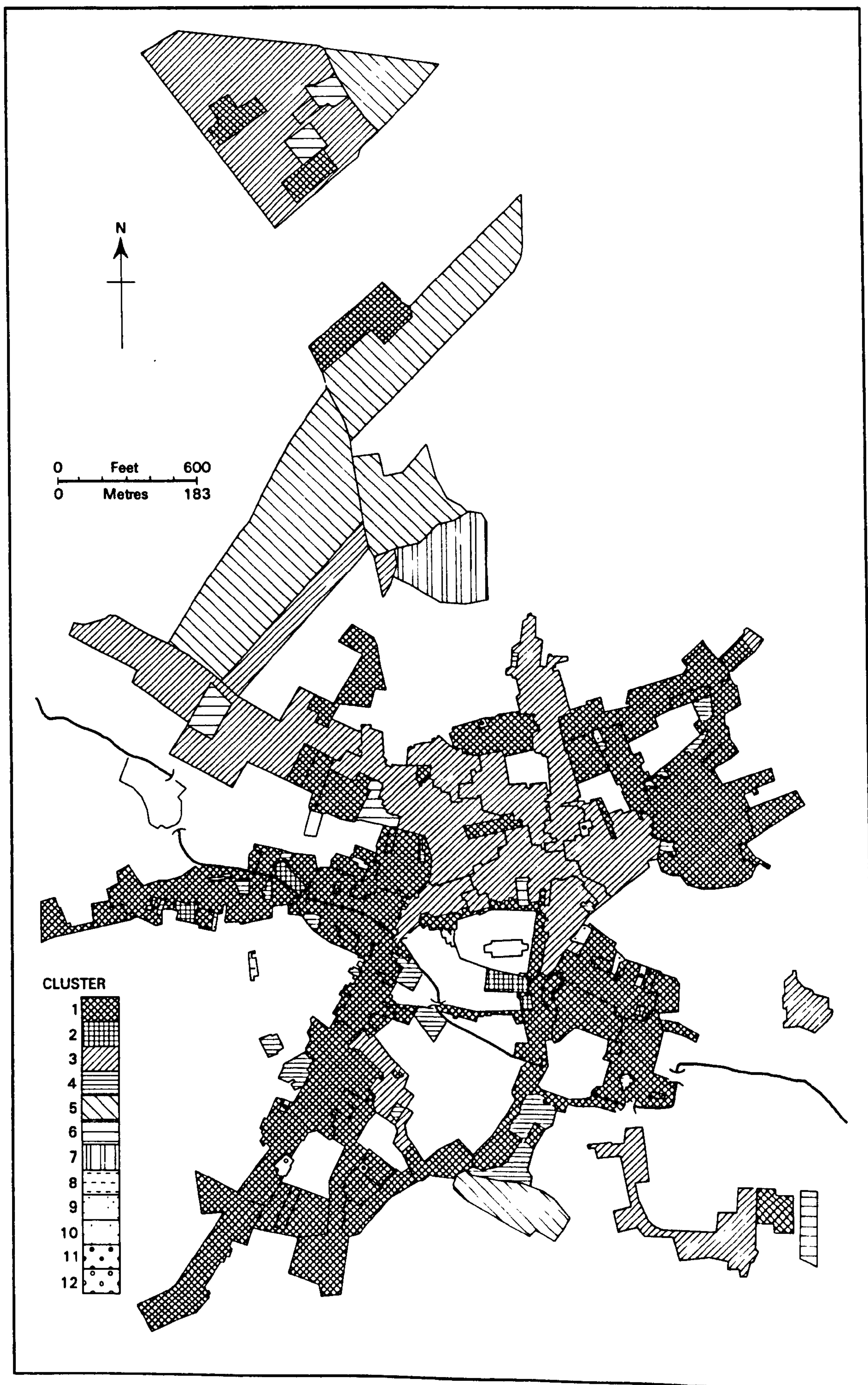
From Figure 7.12, it is clear that the largest grouping in 1871 was formed by Cluster 1, which had seventy-three members located in all parts of the town of Wrexham. The significant T-values associated with cluster one were recorded by the following variables:

0.5487	V.15	% of T.A.P. in S.E.G. 3.
0.5016	V.36	% of T.A.P. in Manufacturing.
0.4239	V.18	Mean number of lodgers per household.
0.3918	V.12	% of Household Heads in S.E.G. 3.

Thus it would seem that the underlying characteristic of this first, large, somewhat all encompassing cluster was the working-class nature of the majority of its inhabitants. From Figure 7.12 it is clear that most areas of the town are included in

Figure 7.12

1871 : Cluster Analysis. 12 Cluster Stage.



cluster one in 1871, the only major exceptions being the central commercial region and the more prosperous developments in the north-west. The exclusion of the commercial streets is somewhat surprising, particularly when it is remembered that occupations associated with retailing were classed in socioeconomic group three. However, clearly the large size of socioeconomic group three as a class has had some effect on this cluster analysis and has resulted in the emergence of a very large cluster one.

Included in this first cluster are many of the relatively low status streets bordering the river, such as Brook Street and Pentrefelin in the west, and Salop Road and Mount Street to the south-east of the churchyard. In most instances only the larger, main streets are included here with the smaller courts off the street-fronts being grouped into different clusters. Other streets in this cluster include the principal streets into the town from the south-west and a series of streets adjoining the Beast Market.

In contrast, the next cluster to emerge, Cluster 2, was relatively small, having only seven members, all of which were small courts. Variables with the significant T-values again gave an indication of the underlying character of this grouping:

3.3616	V.9	% of population born in Ireland.
1.6935	V.13	% of Household Heads in S.E.G.s 4 and 5.
1.6784	V.16	% of T.A.P. in S.E.G.s 4 and 5.
1.6693	V.41	% of T.A.P. who are engaged as labourers.

Obviously the members of this cluster were essentially of lower socioeconomic status and were dominated by individuals born in Ireland, which gave the grouping its distinctive immigrant character. As can be seen in Figure 7.12, all of the members of this second cluster were relatively small areas located within the streets belonging to the working-class cluster which emerged as cluster one, particularly near the river. Amongst the areas included in this second cluster is Yorkshire Square, which has emerged throughout this whole examination of Wrexham (1841-1871) as one area where those of Irish origin were very important. Indeed this Square is highly characteristic of this whole cluster.

The next cluster to emerge, Cluster 3, is larger, having some twenty members and as can be seen from Figure 7.12, most were located at the centre of Wrexham. The variables with significant T-values for this grouping, emphasise the commercial character of this cluster:

1.2977	V.19	% of households with domestic servants.
1.0037	V.39	% of T.A.P. in Domestic Service.
0.8579	V.37	% of T.A.P. in Dealing.
0.8043	V.28	Sex Ratio: females/males.

The dominant feature of this cluster is the overriding presence of females and in particular those

females employed in domestic service and in commercial concerns. Some streets, away from the central commercial core of Wrexham are included in this grouping, particularly King Street and streets in Rhosddu in the north, and towards the south, Caia farm and Chapel Street. In these streets, females were mainly engaged as domestic servants in private households, in contrast to the commercial centre and the village-like community of Wrexham Fechan, where female employees were important in additional capacities bound up with the commercial retailing activities. The major commercial streets of the town such as High Street, Chester Street, Charles Street and Queen Street, are all included in this third cluster.

Cluster 4 also has quite a large number of members (twenty-five), but in contrast to cluster three, these are relatively small and are scattered throughout the town without forming a coherent unit. The distinctive characteristic of this fourth grouping is the presence of children, indicative of poorer families at an early stage of the family lifecycle:

1.3728	V.29	Fertility Ratio.
1.1182	V.41	% of T.A.P. who are engaged as Labourers.
1.1020	V.25	% of total population aged 0-14 years.
1.0538	V.24	% of total population aged 0-4 years.
1.0276	V.1	% of population born in Wrexham.
1.0156	V.13	% of Household Heads in S.E.G.s 4 and 5.

Again the members of this cluster were mainly located near the working-class streets forming the large, first cluster and most were small courts and terraces adjoining these larger streets, such as the two relatively new developments off Bridge Street, in the south of the town. From Figure 7.12 and our knowledge of Wrexham in 1871, it is immediately clear that Cluster 5 represents a high status grouping, and this is confirmed if the variables with significant T-values are detailed:

2.6905	V.19	% of households with domestic servants.
2.6201	V.11	% of Household Heads in S.E.G.s 1 and 2.
2.1318	V.39	% of T.A.P. in Domestic Service.
1.8213	V.14	% of T.A.P. in S.E.G.s 1 and 2.
1.5707	V.20	Mean number of domestic servants.
1.5617	V.28	Sex Ratio: females/males.
1.3800	V.40	% of T.A.P. who are Independent.

All five members of this grouping have previously emerged in this analysis of 1871 data as forming the prestigious areas of Wrexham. Most are located in the north-western sector of the town including Grove Road, Grove Park and Grosvenor Road, but again in the far south of the town, Salisbury Park also emerges in this cluster thereby confirming its higher status character. The remaining cluster member is Chevet Hey in the northern developing region of Rhosddu.

From the variables with significant T-values, the next grouping, Cluster 6, also emerges as a higher

status cluster and in Figure 7.12 its members are scattered throughout the town:

1.7341	V.14	% of T.A.P. in S.E.G.s 1 and 2.
1.5299	V.11	% of Household Heads in S.E.G.s 1 and 2.
0.8765	V.25	% of total population aged 0-14 years.

In fact this cluster is somewhat unusual, being composed of rather specialised streets with apparently few common characteristics. Included in cluster six are two areas of Rhosddu in the north (Salop Terrace and Greenfield), and The Military Depot in Regent Street as well as Overton Arcade, adjoining the High Street in the town centre. The other two members are Stanley Street in the south-east and Priory Street, both of which were only newly developed in 1871. Undoubtedly these streets were grouped by the common presence of higher status households, but apart from this they appear to have little in common.

Both Cluster 7 and Cluster 8 are unique clusters, being composed solely of Grove's School and Tenter's School respectively. This analysis for 1871 again reconfirms the special functions and the distinctive characters of the two schools within the town as a whole, features which were readily apparent throughout the whole period of this examination of Wrexham. Cluster 9 is also comparatively small, being composed of only three members, all small courts - Price's

Court, Holt Street; College Court and Castle Yard, Pentrefelin. The variables with significant T-values suggest that the outstanding characteristic of this cluster was an elderly population, mostly of Welsh origin:

5.3872	V.27	% of total population aged 60+ years.
2.9991	V.23	Mean age of Household Head.
1.0994	V.2	% of population born in Denbighshire, Flintshire and Merionethshire.

Similarly, Cluster 10 is also quite small and again it is composed entirely of three small court areas. In contrast to the last grouping, the main features of these courts were the low socioeconomic status of the residents and the importance of lodging within households, with the Irish being the only ethnic group of distinction:

1.7652	V.13	% of Household Heads in S.E.G.s 4 and 5.
1.6155	V.18	Mean number of lodgers per household.
1.5393	V.17	% of households with lodgers.
1.4515	V.16	% of T.A.P. in S.E.G.s 4 and 5.
0.9451	V.9	% of population born in Ireland.

Two of the courts included in cluster ten, Brown's Court in Mount Street and McDermott's Building in Yorke Street, are located in the area to the south-east of the churchyard which had emerged throughout this

analysis as a lower status area where the Irish were particularly important. The final member is Holt Court in Farndon Street.

Five more small court areas combine to form Cluster 11 and all are scattered throughout Wrexham.⁽²²⁾ Again, it is clear from Figure 7.12 that this cluster is very small, but the significant variables suggest that the residents of these courts were essentially English and relatively young. The final grouping, Cluster 12, is even smaller, having only one member - Prospect Square in Penybryn. Again from the significant variables, this Square appears to have been essentially working-class in 1871 but most importantly, residents originally came from the English Midlands and it was this characteristic which resulted in the Square's uniqueness within this Cluster analysis.

This completes the detailed discussion of the sociospatial structure of Wrexham in 1871. From the general pattern shown in Figure 7.12 and the earlier results given in this chapter, it is clear that in many respects the transition of the town from the pre-industrial form to the modern state, which was already underway in 1841, was still continuing in 1871 and had not yet reached a conclusion.

In 1871, the wealthiest inhabitants lived on the town's periphery, particularly in the north-western sector but also on the southern fringe. Linking the wealthy north-western periphery and the commercial

centre was a routeway of relatively "well-off" streets, while residents of the centre itself, particularly in the High Street, were also maintaining their higher status. Ringing the town centre was an almost continuous belt of working-class streets, broken only on the north-western edge by the higher status routeway. Within this working-class ring, lower status residents were concentrated particularly in the smaller courts and backstreets, especially in those streets bordering the river where the brewing and tanning concerns were also located. In a small town like Wrexham there was only limited spatial segregation between working-class and lower status residents at the street level. Thus working-class streets and neighbourhoods also contained residents of lower status who occupied less privileged locations but did not form distinct regions of their own.

In terms of a general model, Figure 7.12 which shows the spatial structure of Wrexham in 1871, contains many of the features of the post-industrial model generally put forward for towns which have undergone the transition from the pre-industrial form. In Wrexham this transition had already begun by 1841 (Chapter Four), when many embryonic features of the modern town were already apparent. Over the thirty year period, 1841-1871, this transition progressed so that at the latter date the sociospatial pattern of Wrexham was in many ways "modern" and showing many features already identified for larger towns in the

nineteenth-century, but the transition was not yet complete and aspects of the pre-industrial structure could still be recognised. However, in Wrexham, this spatial metamorphosis was occurring at a smaller scale than in the larger towns. Unlike large towns where the transition was played out in terms of large spatial areas or units, in the smaller town the street or court remained the scale of this transition and change.

Before looking more fully at such notions, we first turn to examine the results of an analysis undertaken at an even finer scale than the street. For the year of 1851, in addition to the street-level analysis (Chapter Five), the town of Wrexham was subsequently examined at the level of the household. The results of this second analysis are presented in the following chapter.

7.7 Notes

1. 8,909 individuals were enumerated for Wrexham in the census of 1871. The totals for all four census years within this analysis are given in Chapter 2, Figure 2.1.
2. Daultry, S. (1976) Principal Components Analysis, Catmog No.8, Norwich.
3. For an introduction to Cluster Analysis see Dollar, C.M. and Jensen, R.J. (1971) Historian's Guide to Statistics, New York, particularly Chapter 6.

4. The number of separate street units identified from the census grew with each successive census - 1841 - 51 streets; 1851 - 72 streets; 1861 - 120 streets; 1871 - 161 streets;
5. Ward, J.H. (1963) "Hierarchical Grouping to Optimize an Objective Function", The Journal of the American Statistical Association, Vol.58, p.236-244.
6. The first four components to emerge from the 1871 analysis, together accounted for 39.2% of the total variance within the data set. This percentage was less than the result for ten years earlier, and indeed, in successive censuses the percentage of variance accounted for by the first four components declined quite substantially: 1841 - 55.7%; 1851 - 44.5%; 1861 - 40.7%; 1871 - 39.2%.
7. For the full list of variables included in the analysis, see Chapter 2, Figure 2.6.
8. King Street, the first residential street to be developed in Wrexham, dates from 1836.
9. Printed in The Wrexham and Denbighshire Weekly Advertiser, January 9th 1858. The National Library of Wales, Aberystwyth.
10. Printed in The Wrexham and Denbighshire Weekly Advertiser, May 10th 1862. The National Library of Wales, Aberystwyth.
11. Printed in The Wrexham and Denbighshire Weekly Advertiser, December 4th 1869. The National

Library of Wales, Aberystwyth.

12. Rate Book for The Borough of Wrexham, dated February 28th 1871. Deposited in The National Library of Wales, Aberystwyth. The average annual rateable value was calculated for each street; streets were then assigned to one of five classes.
13. The fertility ratio (variable 29) was calculated by dividing the number of children aged 0-4 years, by the number of females aged 15-44 years within each street.
14. Armstrong, W.A. (1972) "The Use of Information about Occupation", In Wrigley, E.A. (Ed.), (1972) Nineteenth-century Society. Essays in the Use of Quantitative Methods for the Study of Social Data, Cambridge University Press, Cambridge. Chapter 6, p.191-310. See particularly: Part 1: "A Basis for Social Stratification", p.198-225. This includes a detailed listing of occupations. Other works by Armstrong are cited in the bibliography.
15. Printed in The Wrexham and Denbighshire Weekly Advertiser, January 2nd 1869. The National Library of Wales, Aberystwyth.
16. Figure 5.5, Chapter 5, shows the spatial distribution of component scores associated with the second component to emerge from the analysis of 1851 census data, concerned with socioeconomic/ethnic status. Brook Street is returned in sextile two.

17. See Figure 5.7, Chapter 5 for a fuller version of the 1851 percentages.
18. Market Street was formerly known as Seven Bridge Lane.
19. "Lodger families" represent the specialised case where a lodger in a household is accompanied by a wife and/or children. This would then suggest that a whole family was lodging with another - two (or more) families sharing one dwelling.
20. North West England comprises the counties of Cheshire, Lancashire and Shropshire. See Figure 2.2, Chapter 2.
21. Ward, J.H. (1963) *op.cit.*
22. The five members of cluster eleven are: Alcock's Court, Mount Street; Smith's Court, Charles Street; Stoke's Court, Penybryn; Hilly View, Erddig Road and Edward's Court, Lampit Street.

CHAPTER 8

1851 HOUSEHOLD ANALYSIS

8.1 Introduction

Throughout the last four chapters (Chapters 4-7) the basic spatial unit used in this examination of Wrexham during the middle years of the nineteenth-century was the street. For a town the size of Wrexham,⁽¹⁾ the street offered the most acceptable level of analysis, since it was small enough to reveal the underlying social variations and yet it was also possible to plot the results spatially without too much difficulty. At the same time, in real terms, the street also held some meaning for the town's inhabitants, both the inhabitants of the period under discussion and later populations. At the origin of this research, it was also hoped to reduce the scale of the analysis still further, below that of the street level, to examine sociospatial variations at the level of the household. Initially it was hoped to do this for each of the four census years (1841, 1851, 1861 and 1871) in a direct comparison with the results from the street-level examinations. However it soon became clear that such a proposition was extremely ambitious in terms of the time available and the amount of computation this would involve.

Rather than reject this notion totally, it was therefore decided to undertake the household analysis on the data from one census year only, to reduce the problems to more manageable proportions. By a process of elimination, the year of 1851 was chosen as being most representative of the four, and so the census data for that date were reexamined at the household level. The data for both 1841 and 1861 were rejected because of problems of data omission, while 1851 was favoured over 1871 because of its relative smallness in terms of the numbers of inhabitants which were involved, and also because it marked the midpoint of the century. Even for 1851, 6,714 individuals were enumerated in the census, which grouped into a total of 1,310 households, a vast number for any computer package to process.

8.2 Analysis

The method used in the coding of data from the census enumerators books has already been discussed in detail in Chapter Two. Initially the data were abstracted for individuals, with each individual having a separate computer card, to ensure that any form of spatial grouping could easily be employed at a subsequent time. For the main analyses, these data were then grouped into street units, but in this secondary analysis of the data for 1851, household units were also formed. 1,310 household units were recognised from the census of 1851 whilst forty

variables were isolated from the census data to include in a Principal Components analysis (Figure 2.8). As near as was possible, these forty variables corresponded to the variables used in the earlier street-level analyses.⁽²⁾ The variables used in the 1851 household analysis (Figure 2.8), as well as those used in the street-level analyses for all four years (Figures 2.6, 2.7), are detailed in Chapter Two.

The derivation of the data relating to these forty variables for each of the 1,310 household units, involved a great deal of computational manipulation of the initial census data, which had been filed in the computer for the sake of efficiency. For the most part, problems arose because of the large number of households involved. To group the individuals living in Wrexham in 1851 into household units a computational "subfile" procedure was utilised. However, within the computer package adopted⁽³⁾ to derive data on the forty variables, only one hundred subfiles could be used in any single computer run. Thus, for example, in any crosstabulation (or "Crosstabs") procedure only one hundred households or subfiles could be processed at one time. This meant that each such procedure had to be repeated thirteen times, (for a total of fourteen runs), to obtain data for all 1,310 household units or subfiles which made up the total data set. This resulted in the largescale duplication of work and increased considerably the amount of time spent on the computing prior to the analysis proper.

Eventually however, all the relevant data were derived from the census material and a data set comprising the 1,310 household units and the forty variables (Figure 2.8) was subjected to a Principal Components analysis.⁽⁴⁾ To maintain the comparability between the street-level and household-level analyses for 1851, the same procedure used in the street analysis was again utilised and again the unrotated solution was adopted.⁽⁵⁾ The first four components to emerge from this Principal Components analysis at the household-level for 1851, are discussed in detail below and comparisons are made with the results from the earlier street-level analysis for 1851. The results from the latter are discussed in full in Chapter Five.

The first component to emerge from this household analysis had an eigenvalue of 4.16878, and it accounted for some 10.4% of the total variance in the data set.⁽⁶⁾ It was essentially a socioeconomic status component as shown by those variables with the highest positive eigenloadings:

Eigenloading	Variable Number and Title (7)	
0.63768	V.14	Household Head in Socioeconomic Groups (S.E.G.s) 1 and 2.
0.63411	V.11	% of Total Adult Population (T.A.P.) in S.E.G.s 1 and 2.
0.54396	V.23	Servant Index.*
0.51621	V.37	% of T.A.P. in Domestic Service.
0.49421	V.38	% of T.A.P. who are Independent.

At the negative pole of this first axis, variables concerned with socioeconomic status also returned the

* see Fig. 2.8, page 84.

lowest (highest negative) eigenloadings:

-0.59069	V.15	Household Head in S.E.G. 3.
-0.54780	V.28	% of household aged 0-14 years.
-0.51848	V.27	% of household aged 0-4 years.
-0.51053	V.12	% of T.A.P. in S.E.G. 3. (7)

Thus, essentially this first component differentiated households of high socioeconomic status from those households of medium status, or what might be termed working-class, where the presence of children was also an important consideration.

In many respects this first axis from the household analysis was very similar to the first component which had previously emerged from the 1851 Principal Components analysis based on the street. As shown in Chapter 5 (Section 5.2), the latter was also a socioeconomic status component which differentiated between higher and medium status streets within the town of Wrexham. For the first component of the street analysis, the following eigenloadings had been significant:

1851 Street Analysis: Component One

Highest Eigenloadings

0.79583	V.39	% of T.A.P. engaged in Domestic Service.
0.77531	V.11	% of Household Heads in S.E.G.s 1 and 2.
0.77341	V.14	% of T.A.P. in S.E.G.s 1 and 2.
0.74623	V.19	% of households with domestic servants.

Lowest Eigenloadings

-0.74923	V.12	% of Household Heads in S.E.G. 3.
-0.73682	V.15	% of T.A.P. in S.E.G. 3.
-0.61714	V.36	% of T.A.P. in Manufacturing.
-0.60155	V.29	Fertility Ratio (8).

Clearly, if the two sets of eigenloadings are compared it will be seen that the first axes to emerge from the two separate Principal Components analyses based on both street and household units were, in terms of characteristics, very similar. This would seem to suggest that the affects of scale on these analyses were minimal, at least at this micro-scale level, since the use of the street or the household as the basic unit had little apparent affect on the first axes to emerge from each analysis. Having established the comparability of the first components, we now turn to examine the second components to emerge from both Principal Components analyses.

From the secondary Principal Components analysis of 1851 censal data based on household units, the second axis to emerge had an eigenvalue of 3.32167 and it accounted for 8.3% of the total variance within the data set. The significant eigenloadings suggest that this second axis was again concerned mainly with socioeconomic status, but this time differentiating between households of lower status and those of medium status or working-class. However, in addition, ethnicity occupied an important role in the character of this component:

0.69566	V.16	Household Head in S.E.G.s 4 and 5.
0.54345	V.13	% of T.A.P. in S.E.G.s 4 and 5.
0.48899	V.9	% of population born in Ireland.
0.45781	V.31	% of T.A.P. in Agriculture and Breeding.
0.44060	V.26	Child Ratio.
0.43299	V.19	Households with "lodger families". (7)

At the other extreme, at the negative pole of this second axis, the only variables with significantly low eigenloadings were concerned with the third socioeconomic grouping:

-0.60466	V.12	% of T.A.P. in S.E.G. 3.
-0.53970	V.15	Household Head in S.E.G. 3. (7)

As done previously with component one from this household analysis, this second axis was compared with the second component to emerge from the earlier 1851 Principal Components analysis at the street-level (Chapter 5, Section 5.3). Again, in many respects the two components had much in common, as shown by the following variables which had the significant positive eigenloadings on the second axis from the street-level analysis:

1851 Street Analysis: Component Two

Highest Eigenloadings

0.70850	V.32	% of households with "lodger families".
0.67830	V.16	% of T.A.P. in S.E.G.s 4 and 5.
0.63152	V.17	% of households with lodgers.
0.63045	V.9	% of population born in Ireland.
0.57126	V.13	% of Household Heads in S.E.G.s 4 and 5. (9)

No variables emerged from the street-level analysis for 1851, with significantly low eigenloadings on this second component, unlike the same axis in this household-level analysis when the negative pole stressed households of medium status. However it is clear from the above that similar second components had again emerged from the two analyses based on different spatial units, although the axis from the earlier street-level examination laid more emphasis on lodging aspects than that resulting from the household-level analysis. Even so, there was enough similarity between the two second axes to allow some comparison between them. In contrast, the next two axes to emerge from this household analysis, components three and four, had little in common with their counterparts from the earlier street-level analysis. They were, in fact, essentially dissimilar in character, which made any comparison impossible.

In the household-level analysis for 1851, the third component to emerge had an eigenvalue of 3.10133 and it accounted for 7.8% of the total variance within

the data set. The main feature of this component was the large size of individual households whilst the following variables had the highest positive eigenloadings on this axis:

0.58817	V.20	Household Size.
0.50228	V.22	Lodger Index.*
0.48698	V.19	Households with "lodger families".
0.35882	V.26	Child Ratio. (7)

At the negative pole of this third axis, the lowest eigenloadings (highest negative) were returned by the following variables:

-0.62280	V.24	Household Index.
-0.44711	V.16	Household Head in S.E.G.s 4 and 5.
-0.36925	V.30	% of household aged 60+ years.
-0.35480	V.21	Age of Household Head.
-0.35454	V.1	% of population born in Wrexham. (7)

These significant variables suggest that this third component was more complex than its two predecessors since quite a wide range of variables are important within the axis. In some respects this third axis differentiated between large households where lodgers, and to a lesser extent children, were important and households with elderly, lower status heads which were dominated by locally-born individuals. However, the characteristics of this third component had little in common with any of the components to

* see Fig. 2.8, page 84.

emerge in the 1851 Principal Components analysis at the street-level (Chapter Five), which was somewhat unsatisfactory since it rendered any comparison between the two analyses impossible.

The fourth component to emerge from this household-based Principal Components analysis, and the final axis which will be examined in full here, had an eigenvalue of 2.69504 and accounted for 6.7% of the total variance within the data set. Again this component was relatively complex and had little in common with the axes which had emerged in the earlier street analysis for 1851. The major feature of this fourth axis is the socioeconomic status of the households, with high component scores emphasising those households of higher status with young children:

0.56426	V.27	% of household aged 0-4 years.
0.55428	V.28	% of household aged 0-14 years.
0.49750	V.14	Household Head in S.E.G.s 1 and 2.
0.46282	V.11	% of T.A.P. in S.E.G.s 1 and 2.(7)

At the other extreme, a mixture of variables have the lowest eigenloadings on this fourth component, although there is some emphasis on lodging:

-0.52043	V.22	Lodger Index.
-0.41745	V.19	Households with "lodger families".
-0.36037	V.29	% of household aged 15-59 years.
-0.30373	V.35	% of T.A.P. in Dealing. (7)

Both components three and four had no direct comparison amongst the components isolated in the earlier street-level Principal Components analysis, which suggested that to some, limited extent, the difference in scale between the two analyses was having an effect on the results. However, components one and two in both analyses were very similar in character in direct contrast to the above.

Having isolated the first four components in the household-level Principal Components analysis, it was decided to concentrate on the first two axes only since they were directly comparable with two components from the earlier street-level analysis. Since this examination of Wrexham was concerned mainly with spatial patterns, it was hoped to examine the spatial aspects of the household analysis by plotting component scores for each household relating to both component one and component two. However it proved impossible to plot all the scores for the individual households for a variety of reasons.

The very large number of households, 1,310 in all, provided many problems in plotting component scores, as did the lack of adequate addresses for individual households given in the census enumerators books. At the same time, the additional information generally used when locating individual properties, such as the position in a street of public houses or the comparison of entries with trade directories from the same date, proved inadequate for the successful remedy of this

deficiency. Thus it proved impossible to locate households precisely, and any attempt at plotting the individual household component scores would have included a lot of arbitrary guesswork.

To overcome this problem of plotting and to re-emphasise the spatial characteristics of Wrexham in 1851, a Cluster analysis⁽¹⁰⁾ was attempted on the basic household data set of 1,310 household units and forty variables (Figure 2.8) using the Clustan computer programme. Again it was intended to use the same procedure (Ward's Error Sum) within the package but the Cluster analysis itself proved impossible due to the number of separate household units involved. Clustan has a maximum limit of 500 units and this was far exceeded by the total of 1,310 households included in the data set. Thus a Cluster analysis at this stage had to be abandoned.

It was therefore decided to try to use the information derived from the Principal Components analysis based on the household, by converting it into street units so that some sort of plotting could be undertaken and the underlying spatial patterns revealed. Such action would mean that not only could the spatial patterns be examined, but also that these patterns could be compared with the earlier sociospatial results from the analysis at the street-level. Eventually, a method of conversion to the scale of the street was arrived at and this was applied to the first two components only, from the

household analysis, since these axes were essentially comparable with components from the earlier street-level analysis.

For both component one and component two, the component scores returned by all the households were sorted into sextiles around the median. Then the households were regrouped into street units and for each street, the proportion of the total number of households in each sextile was determined for each of the two components. Looking at just one example, Mount Street, for component one, it was found that 15.4% of the street's total households fell in the first sextile (with the highest component scores), 9.6% in sextile two, 19.2% in the third sextile, 11.5% in sextile four, 26.9% (which was the highest proportion) in the fifth sextile and 17.3% in the final sextile which was composed of the lowest component scores (Figure 8.1).

Figure 8.1
Mount Street: 1851 Household Analysis - Component One

Sextile	Percentage
1	15.4
2	9.6
3	19.2
4	11.5
5	26.9
6	17.3

Figures derived from the Principal Components analysis of 1851 census data.

In the main, these results agree very well with what was already known about the character of Mount Street from the 1851 street-level analysis, when it was dominated by inhabitants of lower socioeconomic status. In a similar way, the proportions of households within Mount Street, in each of the sextiles relating to the second component were also calculated. In this case, 11.5% of Mount Street's households fell into the first sextile, 17.3% in sextile two, 21.2% in the third sextile (which was the highest proportion), 19.2% were found in the fourth sextile, with 15.4% in both sextile five and sextile six (Figure 8.2).

Figure 8.2
Mount Street: 1851 Household Analysis - Component Two

Sextile	Percentage
<hr/>	
1	11.5
2	17.3
3	21.2
4	19.2
5	15.4
6	15.4

Figures derived from the Principal Components analysis of 1851 census data.

Similar proportions were derived on both components for every street in Wrexham in 1851, using the data from the household-level Principal Components analysis. In all, these data were calculated for

fifty-nine streets, all of which could be located on the 1851 base map, thereby omitting those streets or areas which lay outside the main boundaries of the town.

For each of the two components, this data set comprising the fifty-nine streets and the six sextile proportions then became the basis for two further Cluster analyses, again using the Clustan computer package.⁽¹⁰⁾ Again to maintain any potential comparison of the results, the Ward's Error Sum procedure was adopted from the Clustan package.⁽¹¹⁾ The results were mapped, separately, for each component, to reveal the underlying spatial distribution. The spatial patterns were then compared with the corresponding figures from the street-level analysis for signs of similarity. In effect, this method meant that the household data were subjected to a type of higher order Principal Components analysis. The essence of a Cluster analysis is a Principal Components solution, the results of which are then used as the basis of the clustering procedure. Thus, since in this case the data input itself was derived from an earlier Principal Components analysis, a second analysis was carried out and the results used to cluster the streets to produce a spatial pattern.

8.3 1851 Household Data: Component One

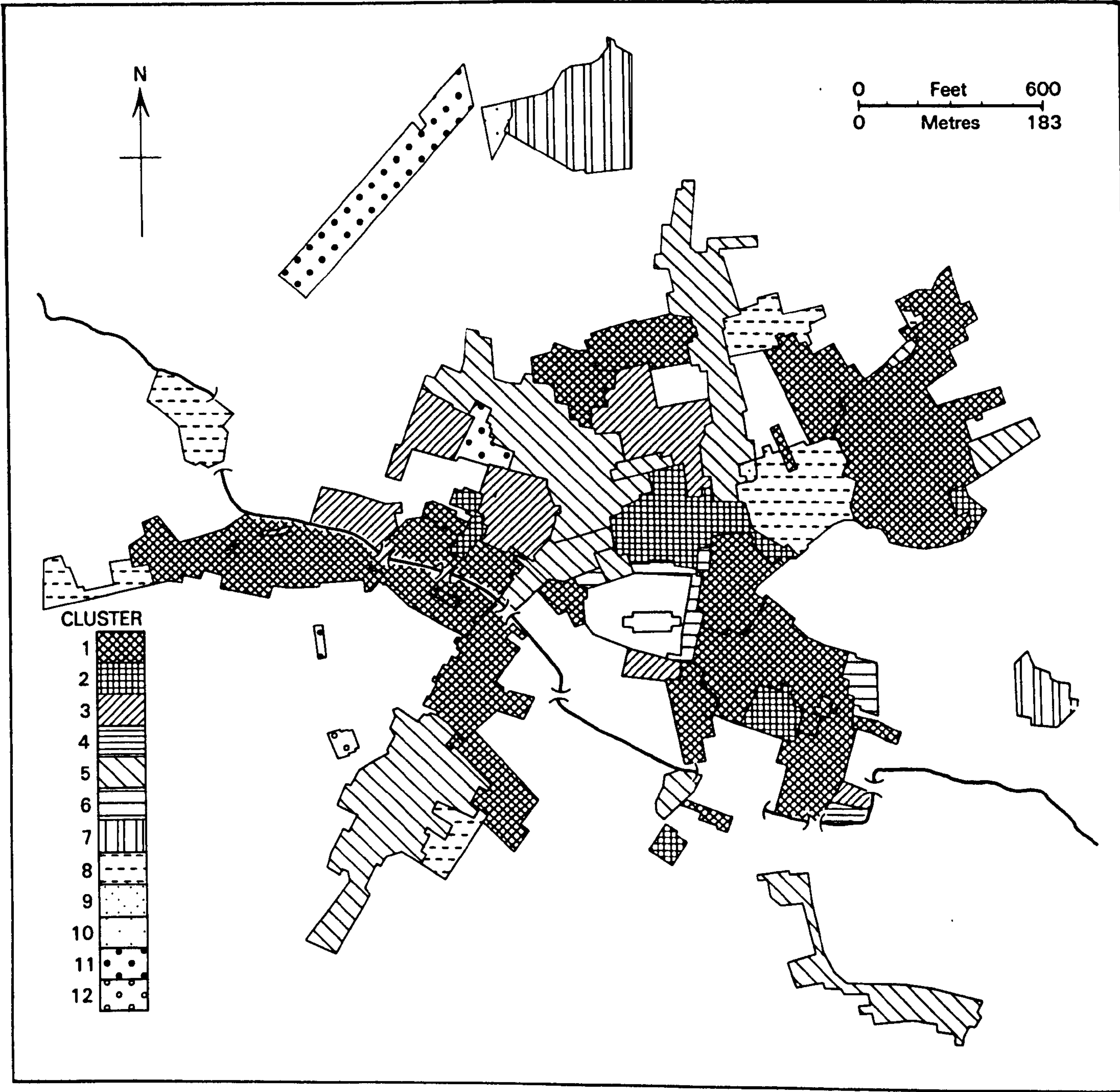
It has already been shown in this chapter that the first component to emerge from the household-level

Principal Components analysis for 1851 was essentially a socioeconomic component differentiating between households of higher status and those of medium or working-class status. The results of the subsequent Cluster analysis, based on the proportional data for streets rather than households and derived for component one, are presented in Figure 8.3. Again these results are presented at the twelve-cluster stage, to facilitate comparison with the earlier street-level results and the dendrogram associated with this clustering can be found in Appendix C.

The spatial pattern shown in Figure 8.3 is relatively complex, but again distinct features which have already emerged within this examination of Wrexham are readily apparent. In general, the members of Cluster 1, which also forms the largest grouping, are located around the predominantly commercial town centre, forming a broken ring. The highest T-value associated with this first cluster was returned by the lowest sextile on component one (sextile six) which emphasised households of medium status. However, those streets which form this initial grouping include many bordering the river, both in the west of Wrexham and to the south-east of the churchyard. Traditionally, as has been shown already, these areas were occupied by individuals of relatively low socioeconomic status, particularly in the courts and yards within the larger streets. These larger, main streets however had previously emerged as being of slightly higher status

Figure 8.3

1851 Household Data : Component One. 12 Cluster Stage.



and this is confirmed by this spatial patterning.

Other members of this first group include the Beast Market and adjoining areas in the east of the town, and Queen Street and Lampit Street along the northern edge of the commercial centre. Socioeconomic group three, which was somewhat all encompassing included many occupations concerned with dealing and retailing, which would account for the inclusion in this first cluster of some of the commercial streets of the town.

Cluster 2, in contrast to the first, is much smaller, having only five members, all of which form an unlikely alliance. The highest T-value was returned by sextile three (1.3300) and it would appear that the streets included here are composed of households of relatively high socioeconomic status although one or two streets seem somewhat anomalous. High Street is the most conspicuous member of this grouping, but the others include Mount House (in Mount Street) and Theatre Lane, adjoining the Beast Market. All of these were of relatively high status in 1851, as shown by the results of the street-level analysis (Chapter 5, Figure 5.2), but the remaining two streets in this cluster, Vicarage Hill and the Barnfield, had previously emerged as being of much lower socioeconomic status. Nonetheless, all five are grouped together on the results of the first component from the household-level Principal Components analysis, to form this second cluster.

From Figure 8.3 and our knowledge of Wrexham in 1851, Cluster 3 would appear to be a lower status grouping and this is confirmed by the significant T-values. The highest T-value associated with this cluster was returned by sextile four (1.6354) which represented households of relatively low socioeconomic status. Included in this third cluster are the infamous Yorkshire Square and the Stone Mason's Yard, off Salop Road, both of which are located near the river Gwenfro with all the attendant problems that such a location would entail. In the west of the town, both the Isle of Man and The Walks, also with riverside locations, are members of this grouping. The other members, Abbot Street, Brynyfynnon and Henblas Street all border the commercial district and Abbot Street in particular was dominated by individuals of lower socioeconomic status at this time, it being particularly renowned for the presence of a large number of public houses.

The 4th Cluster had only one member, the unique Old Bridewell, off Salop Road. The Old Bridewell was an area of essentially working-class status but it also had a very specialised nature which prevented any combination with other streets in the town in this analysis. In contrast, included in the 5th Cluster are several of the largest streets in Wrexham in 1851, streets which formed some of the major routeways into the town. These include Penybryn, to the south, and Chester Street, an important routeway to the north, as

well as a group of streets centered on Hope Street and including Town Hill and Church Street. The other members include Wrexham Fechan and Madeira Hill in the south of the town, and Crescent Terrace in the extreme east. The highest T-value was recorded for sextile one (0.6820) which suggests that the common feature was the presence of households of relatively high socioeconomic status, and this was clearly the case for most of the cluster's members, although again some "problem" streets, such as Madeira Hill, are also included. At the same time, commercial concerns must also have been a feature of this fifth grouping.

Cluster 6 was again much smaller, with only three members. From the significant T-values, these streets were composed of households of both medium and lower socioeconomic status, the most significant values being returned by sextiles five (1.5347) and six (1.2551). Two of the members, the Churchyard and the Nef, adjoin the Church of St. Giles, while the third, Eagle Street is located just to the south-east, only a short distance away.

The 7th Cluster to emerge was even smaller than cluster six, having only two members, both of which were oddities within the town throughout the nineteenth-century. Both Grove School in the north, and The Caia farm on the eastern periphery, had little in common with the rest of Wrexham and in this examination they have often recorded anomalous results. The linking factor within this cluster seems to be the

relatively high status of the households in the two areas, since the highest T-value was returned by the second sextile of this socioeconomic component.

The 8th Cluster was somewhat larger, but again the common characteristic amongst its members was the relative wealth of the individual households. As in the last cluster, the second sextile had the highest T-value (1.0098) with sextile three, which referred to lower status households, having the lowest T-value (-0.7136). In general terms, all the members of this grouping show peripheral locations in Figure 8.3, and included in cluster eight are several of the newly developed streets such as Erddig Road in the south, and Belle Vue Road in the extreme west. Another member is the western estate known as Island Green, which had already begun to decline in terms of status, from a position of relative wealth in 1841, following its sale to a brewery in 1850. The remaining three members are all in the eastern sector of the town and include one small court in the Beast Market which is something of an anomaly.

Both Cluster 9 and Cluster 10 have only one unique member each, the former consisting solely of Jenkin's Entry in Charles Street, while Grove Lodge constitutes the tenth grouping. Jenkin's Entry had a relatively poor population in 1851, as was usual for most small courts, and sextiles four and six had the most significant T-values for this cluster. Grove Lodge was of somewhat higher status than Jenkin's Entry but the

lodge was still relatively lowly in status terms, particularly for the northwestern periphery, which, by 1851, was developing into the premier region of the town. For this tenth cluster, sextile three had the highest T-value (4.7389) on this first socioeconomic component.

As shown in Figure 8.3, the remaining two clusters were also small in size. Cluster 11 represents the highest status households in the town in 1851, although only one of its members, King Street, had previously emerged as the location of the principal families of Wrexham. Sextile one had the most significant T-value (3.4605) in this cluster, emphasising the importance of higher status households within these streets. Included in cluster eleven with King Street are Priory Street, a newly developing street off Regent Street, and more surprisingly, the Tenter's School. In 1851, Priory Street was undoubtedly an emerging high status area (Figure 5.2), but the case for Tenter's School is much less clear, although it did return a high component score in the street-level analysis (Figure 5.2). Within this analysis, Tenter's School consistently emerged with anomalous results, as did Grove Park School and The Caia farm, and it appears that this school's unusual character has at least partly resulted in its inclusion in cluster eleven, since it had little in common, from other results, with either of the other two members.

The final grouping, Cluster 12, again consists solely of one unique area, the specialised character of the Bridewell prohibiting its linkage with any other street or area within the town. At this time, it seems that individuals living in the Bridewell were essentially working-class since the significant T-value for cluster twelve was recorded by the fifth sextile.

This then completes the discussion of the spatial pattern shown in Figure 8.3. The pattern as shown, is relatively complex but again certain distinct and enduring features of the town of Wrexham appear. Yet, when compared with the results for the similar first socioeconomic component from the Principal Components analysis at the street-level, few features are common to both.

The spatial results for the first component to emerge from the street-level analysis were presented earlier in Chapter 5, Figure 5.2, and when these are compared with Figure 8.3 which was derived from a Principal Components analysis at the household-level for 1851, it is immediately apparent that there are several spatial differences between the two patterns. Although in some ways not strictly comparable, the two figures derive from two components which have very similar characteristics, as shown by the variables with significant eigenloadings for both. In general terms, Figure 8.3 is more complex than Figure 5.2, in so far as the constituent members of the six groupings in the latter are less scattered than the member streets

forming the twelve clusters in Figure 8.3, but this is due at least in part to the different grouping procedures used for each figure. Even so, the two figures also have much in common.

Looking particularly at streets dominated by households of lower socioeconomic status, if the streets in clusters one and six are taken together in Figure 8.3, they almost perfectly match those streets (apart from one or two exceptions) forming the lowest sextiles (numbers five and six) in Figure 5.2. This similarity of pattern indicates that in both analyses, whether based on the household or the street as the basic unit, the inhabitants of lower status emerge in precisely the same areas of Wrexham. This in itself, would also seem to suggest that in this instance, scale had little effect on the results.

However, at the other extreme, looking at the areas of higher socioeconomic status, which were the main features of both components, there seems to be few similarities between the two figures. Three members of the highest grouping (sextile one) in Figure 5.2, King Street, Priory Street and Tenter's School, are linked together in Figure 8.3 to form cluster eleven. At the same time, the rest of sextile one along with the members of sextile two from Figure 5.2, emerge in Figure 8.3 in several different and quite distinct clusters. Obviously there is much less agreement between the two patterns at the upper end of these socioeconomic axes than at the lower extreme.

Undoubtedly too, there is also no clear similarity between any one or two clusters in Figure 8.3 and the middle sextiles (sextiles three and four) from Figure 5.2.

Thus, it would seem that despite the obvious increased complexity of Figure 8.3 over the six divisions in Figure 5.2, particularly when inhabitants of lower socioeconomic status are examined, there are clear similarities in the patterns of the two figures. At the other extreme, there are fewer similarities between the spatial patterns returned by residents of higher or even moderate socioeconomic status although this may be due to the difference in the basic groupings used in the two figures.

However, this comparison would seem to suggest that at this scale, whether the analysis is conducted at the level of the household or the street has only minimal effect on the resulting patterns. During the nineteenth-century, it can be argued that the street or court was the basic unit of differentiation within any town. This certainly seems to have been the case in Wrexham, since the additional insight gained from an analysis at the household-level over one at the level of the street, appears to have been minimal and brings few benefits in terms of the sociospatial pattern which is produced, particularly when the additional time involved in such a household-level analysis is taken into consideration. Thus for a town the size of Wrexham, it would seem that the street represents the

most useful basic unit for any analysis in the nineteenth-century, while the use of the household possibly confuses the underlying pattern rather than resulting in any further elucidation.

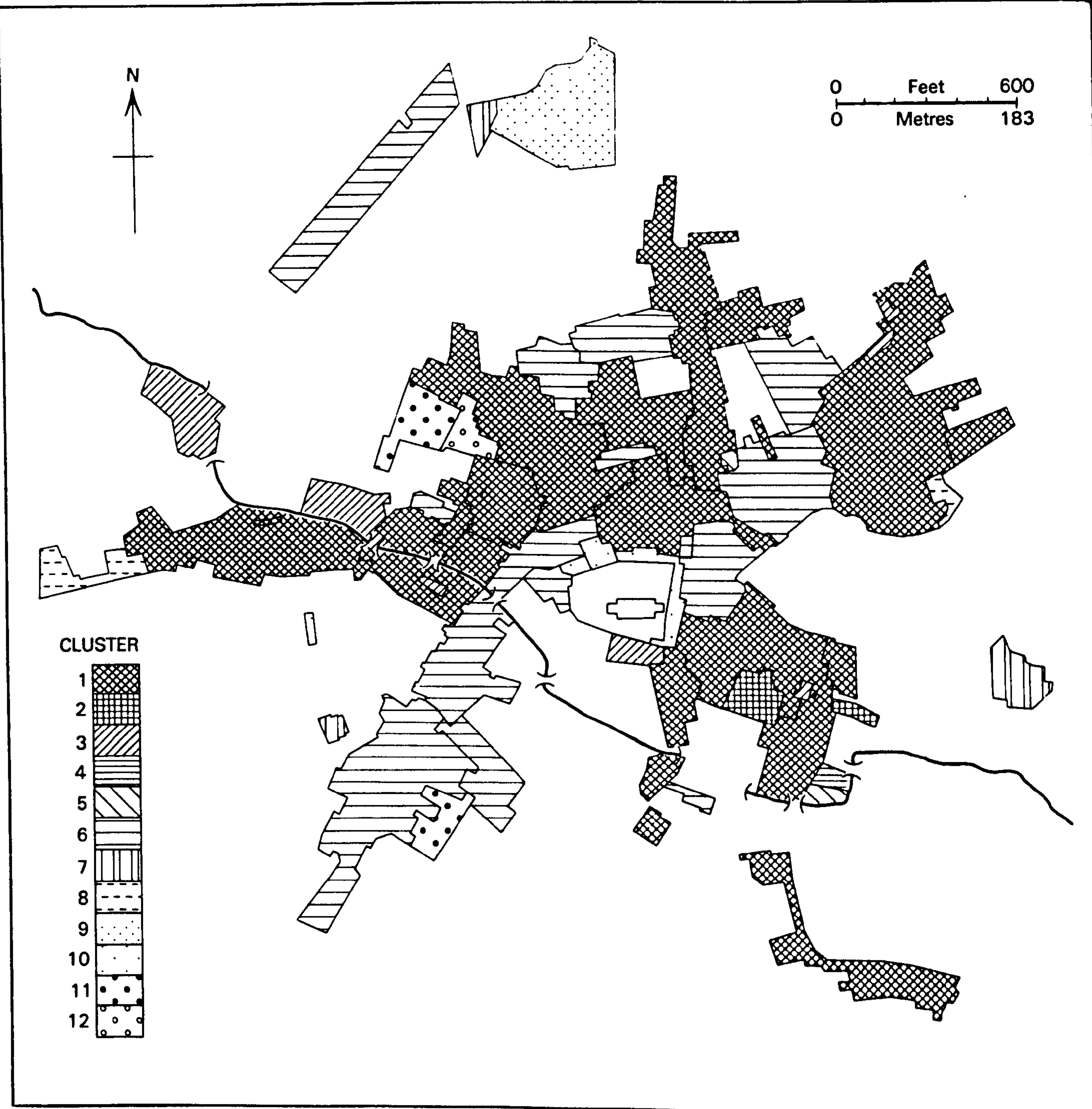
8.4 1851 Household Data: Component Two

The second component which emerged from the Principal Components analysis at the household-level, and which has already been detailed earlier in this chapter, was also essentially concerned with socioeconomic status although other characteristics were also involved. This axis differentiated clearly between households of lower status, among whom lodgers and individuals born in Ireland were of particular significance, and, at the negative pole, those households of medium or working-class status. Households of higher socioeconomic status emerge somewhere in the middle on this component, with moderate component scores.

Again the component scores for each, individual household were grouped into sextiles around the median (after initial sorting into ascending order) and the proportional data relating to each sextile for the separate street-units (after the regrouping of households into streets) were used as the basis of a Cluster analysis. The spatial results of this second Cluster analysis are presented in Figure 8.4 where the groupings are again given at the twelve cluster stage.

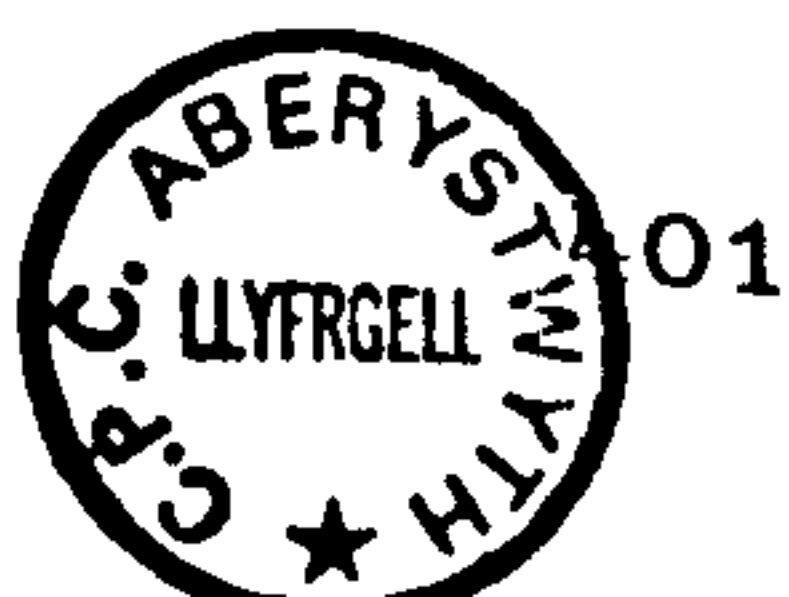
Figure 8.4

1851 Household Data : Component Two. 12 Cluster Stage.



The dendrogram associated with this clustering procedure (the Ward's Error Sum method was again adopted) is to be found in Appendix C. As will be examined in the discussion below, the spatial pattern revealed in Figure 8.4 appears to be somewhat anomalous in the light of our previous knowledge of the sociospatial structure of Wrexham in 1851.

Cluster 1 again dominates the pattern in Figure 8.4, this cluster being by far the largest grouping. The T-values relating to this first cluster are very similar for all the sextiles and also are relatively low with no one sextile predominating. This suggests that cluster one was a type of "catch-all" cluster, grouping streets with residents of mixed socioeconomic status. Included in this cluster are many of the major streets of the town, and streets in both the commercial centre and along the river Gwenfro are represented. Yet in Figure 8.3, these streets had emerged in very different groupings in terms of the first component and it is somewhat surprising that they should be linked in this second cluster analysis. Included amongst the streets in cluster one are High Street, the main commercial street of Wrexham, with the adjoining Hope Street, Henblas Street and Chester Street. Bordering the river in the west of the town, Pentrefelin and Brook Street also emerge, as does Abbot Street, while to the south-east of the churchyard, Tuttle Street, Mount Street and Salop Road are also included in this cluster, along with several areas



across the river Gwenfro. The only other large area forming part of cluster one is the Beast Market in the east of Wrexham, with the adjoining Crescent Terrace.

In contrast to the above, the 2nd Cluster is very much smaller, with only two members, both of which are located towards the south-east of the town in Figure 8.4. The significant T-values are returned by sextiles three (1.8821) and five (1.1556) suggesting that households in these two areas were of higher socioeconomic status with little importance afforded to either lodgers or those of Irish origin. This was certainly the case for Mount House, which remained an anomaly within its immediate surroundings throughout the middle decades of the last century, while the other member of cluster two, the nearby Dog Kennel Hill, was relatively small in size at this time.

As shown in Figure 8.4, the members of the 3rd Cluster are scattered throughout the town. The highest significant T-value was returned by sextile one (1.6702) which emphasises the importance of lower status households in these areas, in which lodgers and those born in Ireland were particularly important. The members of this grouping include several areas which had previously emerged from this examination, as being dominated by such households and in some ways this is confirmed by Figure 8.4. Several courts in the Beast Market and Brook Street are included in this cluster, as is Church Hill, off Mount Street. Yorkshire Square (the old Yorkshire Hall) also emerges in this grouping,

thus confirming again what has already been shown repeatedly, that this Square was dominated by those born in Ireland throughout the whole mid-nineteenth century period. The other members of this third cluster, The Walks and Island Green, are both located in the west of the town. The inclusion of Island Green here may at first glance be surprising since in the earlier cluster analysis (for the first component which was concerned with socioeconomic status) it had emerged as a relatively wealthy estate in 1851. However, as already mentioned, by this date this area was undergoing a decline in terms of status and it is the beginning of this process which is highlighted in Figure 8.4.

The next grouping, Cluster 4, had only one member, the unique Stone Mason's Yard in Salop Road. The highest T-values were returned by sextiles six (3.3718) and four (1.6867) which suggest that the households here were not of particularly low status and those born in Ireland were unimportant. Cluster 5 was also small, with only two members - the Old Bridewell, in Salop Road and Jenkin's Entry in Charles Street. Again the highest T-value was returned by sextile four (4.2490) which suggests that this cluster had much in common with the previous grouping. The Old Bridewell and Jenkin's Entry had formed separate unique clusters in the earlier cluster analysis for component one, but here they are linked together to form one grouping while the Stone Mason's Yard underwent the reverse

transformation from part of a group to a unique cluster.

In contrast, the 6th Cluster is much larger, having fifteen members, and as can be seen in Figure 8.4, it included some of the premier streets in Wrexham in 1851. The sextile with the highest T-value was sextile six (1.0992) which suggests that these streets were dominated by households of medium or working-class status. Undoubtedly many streets did fall into this category, but at the same time, streets included in this cluster had earlier emerged from the street-level analysis as being of higher status in 1851. Nonetheless, all the members of this grouping did have much in common, including the relative unimportance of lodgers and those of Irish origin within the individual households.

The most obvious higher status street in this sixth cluster is King Street, in the north-west of the town, which in 1851, had not yet been surpassed in terms of social prestige by newer developments in the same region. Other member streets include several adjoining the commercial centre of the town, such as Queen Street, Lampit Street, Charles Street and Yorke Street. The other dominant group of streets in this cluster form the main routeway to the south-west and they comprise Town Hill, College Street, Bridge Street, Penybryn and Street Draw. Two other streets included in cluster six, Well Street and Willow Hill emerged in Figure 8.3 as being dominated by households of lower

status and it is surprising that they should be returned in the same cluster as many of the relatively wealthy streets of the town. Despite the variations in terms of socioeconomic status, all streets forming this cluster were united by the low proportions of lodgers and Irish-born immigrants to be found in their households.

The remaining six clusters were all relatively small with each having only a few member streets. The three areas which combined to form Cluster 7 were all unusual in terms of the town of Wrexham and they seem to form an uneasy alliance. From our previous knowledge of the town in 1851, it would appear that Grove Lodge, The Caia farm and the Bridewell had very little in common and yet it is these three which combine to form this seventh cluster. The highest T-value was recorded by sextile two (3.6291) which suggests that in these areas, households of lower socioeconomic status with some Irish connections, were particularly important.

The next cluster, Cluster 8 is, in some ways, similar to the last grouping. Again it is small, Belle Vue Road and Theatre Lane being the sum total of its members (Figure 8.4). Again sextile two (1.6146) displayed the highest significant T-value, emphasising the similarity to cluster seven. Both streets in this grouping are peripheral and represent newer developments on the edges of the town. Belle Vue Road in particular has already been isolated as an area

where the Irish immigrants moved to, as they became established away from the traditional streets of initial habitation, and this is confirmed by the significance in this cluster of sextile two.

The 9th Cluster was even smaller than the previous groupings, it being composed entirely of the unique Groves School (in Grove Park). In general terms, this school has emerged with many anomalous scores in this analysis due to its very specialised function as a boarding school for mainly non-local pupils. Thus the high significant T-value returned by sextile one (4.0247) does not emphasise the importance here of low status households dominated by those born in Ireland and lodgers, but is in fact the direct result of the presence of a large number of boarding children. Because of its specialised function, Groves School had very little in common with other areas of the town and inevitably it formed a grouping on its own.

Two streets bordering the churchyard (Figure 8.4) and the other school, Tenter's School, all combine to form the 10th Cluster. Sextile five had the highest T-value (3.1838) indicating that these three areas had households of moderate socioeconomic status, with few individuals born in Ireland. Cluster 11 was also relatively small, being composed entirely of two peripheral, developing streets. Both Brynyfynnon and Erddig Road were still under development in 1851 and they housed very few families at this date. The highest T-values were returned by sextiles three

(1.8821) and one (1.6152) which would suggest that households of both higher and lower status were important in these areas, a rather contradictory notion. However, the two may be reconciled when it is remembered that these newly developing streets were essentially built for higher status households but such households would include "live-in" servants of much lower socioeconomic status, some of which would invariably have Irish connections.

The final grouping shown in Figure 8.4, Cluster 12, was again composed entirely of one street - the unique Priory Street. In many ways, this street was similar in 1851 to those streets included in cluster eleven, since it too was undergoing development at this time. Again sextile three returned the highest T-value for this twelfth cluster (4.8400), emphasising the higher status character of this street, where there were few individuals of Irish origin or living as lodgers.

In some ways, the pattern shown in Figure 8.4 confirms what we already knew of the town of Wrexham in 1851, mainly from the street-level Principal Components analysis for the same year. At the same time, however, several problems also arise from this Cluster analysis, since the results appear to dispute certain features of Wrexham's sociospatial structure. It would therefore prove useful to compare these latter results with those relating to the second component to emerge from the 1851 analysis at the street-level (as was done

with the first components from both analyses), if only to explore again the possible effect of scale on the results from the two analyses.

The results pertaining to the second component to emerge from the Principal Components analysis at the street-level, for 1851, are detailed in Chapter Five, Section 5.3, and are shown spatially in Figure 5.5. This second axis was also concerned with socioeconomic status, with ethnicity also an important constituent. When Figure 5.5 is compared with Figure 8.4, which relates to the second component to emerge from the household-level analysis, at first glance there seems to be few similarities between the two patterns, although any comparison is affected by the different grouping procedures used. Figure 8.4 is dominated by the first cluster, which linked together many of the major streets of the town. Yet in Figure 5.5, these same streets emerged in several different sextiles, emphasising the variations between them on this component.

At the same time, in contrast to the above, the seven streets which form cluster three in Figure 8.4, all emerge in Figure 5.5 as part of the highest sextile (sextile one). Indeed, these seven areas almost form the whole of this sextile, with only Theatre Lane spoiling the perfect similarity. Once again, in both cases, these areas were dominated by households of lower socioeconomic status, with individuals born in Ireland an important element.

Apart from this one case, there are few other examples of similarity between the two figures. From our knowledge of Wrexham in the nineteenth-century, the results for 1851 as shown in Figure 8.4 appear to be much less reliable than those in Figure 5.5, and many of the anomalies in the former seem to be due to the methods used when obtaining these spatial results. Such a doubt about the reliability of the results would render any detailed comparison between the two figures meaningless in terms of the effect of scale on such results.

From this somewhat superficial comparison of results for 1851, based on the street and the household respectively, it would seem that in general, for a town the size of Wrexham in the nineteenth-century, the change of scale used in the analyses had few effects on the spatial patterns which resulted. Indeed, for the first component (Figure 8.3), the results compare very well with those from the street-level analysis as shown in Figure 5.2. For the second component, fewer similarities are found among the results from the two analyses (Figures 8.4 and 5.5), but it can be suggested that this is due to the methods adopted to obtain the results from the household analysis in a form suitable for comparison. At the same time, the second component to emerge from the household-level analysis had slight variations in character from its counterpart in the street-level analysis, in contrast to the first components from both analyses, which were very similar

in character.

Obviously the method of compilation used in the production of Figures 8.3 and 8.4 would have a direct effect on the final spatial patterns which emerged, and any anomalies which occur may be due to this method of compilation rather than the effects of the different scales used in the analyses. Because it was important for the results from the household-level analysis to be comparable with the street-level results, it was felt necessary to become involved in the method detailed elsewhere in this chapter, despite the many obvious problems, but the results therefore need to be treated with some caution.

This chapter may be viewed as something of a digression in the general progress of this thesis, but it was considered important to include it just to highlight a number of basic problems: (i) that of selecting an appropriate spatial scale of analysis; (ii) that of handling large amounts of data which emerge at a fine scale, in even a relatively small town; (iii) that of plotting households by precise location; (iv) that of comparing results between data sets collected and analysed at different scales.

All researchers concerned with the examination of the internal spatial structure of towns in the nineteenth-century (or in any century for that matter) have to confront these problems. This chapter has shown that a real attempt was made to resolve some of them, but at the end of the exercise, using the 1851

data, it was concluded that the street-level employed throughout this analysis was the most acceptable - and on simple logistical grounds, the only level which could be handled in the time and with the computer routines available. The following concluding chapter will try to bring out the broad sociospatial features revealed by these street-level analyses.

8.5 Notes

1. In 1841, Wrexham's population totalled 4,875. This had risen to 8,909 by 1871. (Figures from the census enumerators books).
2. 30 variables were used in the analysis for 1841 (Figure 2.7); for 1851, 1861 and 1871, 42 variables were isolated from the census (Figure 2.6).
3. The computer package used was S.P.S.S.: Statistical Package for the Social Sciences.
4. Daultry, S. (1976) Principal Components Analysis, Catmog No.8, Norwich.
5. The Principal Component solution was used throughout - type PA1 (unrotated).
6. Together the first four components accounted for 33.2% compared with 44.5% in the street-level analysis for 1851:
Component one 10.4%
Component two 8.3%
Component three 7.8%

Component four 6.7%

Total 33.2%

7. For the full list of variables included in this analysis, see Chapter 2, Figure 2.8.
8. Full details are given in Chapter 5, Section 5.2. For the full list of variables included in the street-level analysis, see Chapter 2, Figure 2.6.
9. Full details are given in Chapter 5, Section 5.3. For the full list of variables included in the street-level analysis, see Chapter 2, Figure 2.6.
10. For an introduction to Cluster analysis see:
Dollar, C.M. and Jensen, R.J. (1971) Historian's Guide to Statistics, New York, particularly Chapter 6. Wishart, D. (1969) Fortran 11 Programs for 8 Methods of Cluster Analysis (Clustan 1), State Geological Survey, University of Kansas (Lawrence) Computer Contributions 38,9.
11. Ward's original proposition of his method may be examined in: Ward, J.H. (1963) "Hierarchical Grouping to Optimize an Objective Function", The Journal of the American Statistical Association, Vol.58, p.236-244.

CHAPTER 9

CONCLUSION

9.1 Introduction

As indicated by the title of this thesis, this examination of Wrexham has concentrated on the spatial patterns which have emerged from an analysis of the census throughout the middle decades of the nineteenth-century. Earlier chapters (Chapters 4 - 8 inclusive) have given the results of this analysis in a relatively detailed form. In this concluding chapter it is proposed to look at the results in a more general way, emphasising the development of the sociospatial pattern over the whole time period of the mid-nineteenth century and in particular looking at the dynamic elements of the town's structure.

The street, the natural unit of a small town like Wrexham, was adopted as the scale of this analysis, although some attempt was also made to look at household variations particularly for 1851, the results of the latter being detailed in Chapter 8. This conclusion will therefore concentrate on the results from the street-level examination since this constituted the main focus of the research. Later in the chapter some attempt will be made to criticise the

methods used in the analysis and to highlight the problems involved, and also to suggest the directions in which interest in this field has developed since this piece of research was undertaken.⁽¹⁾

9.2 Nineteenth-century Wrexham

The main techniques adopted in this analysis of census data for the town of Wrexham were Principal Components analysis⁽²⁾ and Cluster analysis.⁽³⁾ These same techniques have been adopted in most other similar studies of nineteenth-century towns and cities, such studies being particularly 'popular in the 1970s. The geographers undertaking these studies have concentrated on larger, industrial towns of the period⁽⁴⁾ and this analysis developed partly as a counter-response to this bias, by concentrating on a small market town - Wrexham. However, in many ways the results which have emerged from this examination are similar and have much in common with those from the earlier studies.

From the previous studies it became clear that the three major dimensions of differentiation within the nineteenth-century town were (i) socioeconomic status; (ii) family lifecycle; and (iii) ethnicity. Similar components have emerged for all four years of this analysis of Wrexham (1841-1871), although only rarely did these dimensions appear to be entirely separate. More usually the components were characterised by elements of more than one dimension although

socioeconomic status was the dominant component in all four analyses.

It has been argued that such results reflect the data used in the analysis, and indeed it is true that the census, the major source of data for nineteenth-century studies, does concentrate on such socioeconomic information. However, historical studies are heavily dependent on the data which are available and cannot incorporate material which has not survived, so this dependence on the census still remains for all nineteenth-century studies.

Many previous studies of nineteenth-century towns have concentrated on the transitional nature of towns, emphasising the development of small "pre-industrial" towns towards the "modern" cities of the following century, and it is into this tradition that this study of Wrexham fits. By looking at four dates (1841, 1851, 1861 and 1871) delimiting a thirty year period of the mid-century, it was hoped to trace the sociospatial patterns over time, to gain some insight into the processes at work in this small market town.

The results for the earliest date, 1841, suggest that in some ways Wrexham was already showing signs of "modernity" at this time. The rich elite had begun the movement to the periphery with the development of King Street from 1836, although many higher status families still retained their homes at the town centre even in 1871. This was in part due to the commercial function of the town and the slowness with which the "lock-up

shop" was adopted, a development which would later free such families to look towards the suburbs for their residences. A similar situation was noted by Lewis in his study of Newport, Gwent and he suggests that in general, new urban trends were slow to be adopted by Welsh towns of the period, an idea which is certainly supported by this work on Wrexham.⁽⁵⁾

The location of King Street in the north-western sector of the town led to this area being developed for the higher status groups. In later years, Grove Park and the adjoining roads were developed to supply this demand for new houses and it was in the 1860s and 1870s that the substantial peripheral movement began, although it was not completed until after 1871. However, the subsequent development of Rhosddu, further to the north, appears to have been aimed at a less-elite resident. By the end of this period, 1871, higher status families could also be found in separate developments on the southern edge of the town, centered on Salisbury Park.

Over the period, the development and improvement in status of this north-western sector of Wrexham led directly to an improvement in the fortunes experienced by roads forming the routeway between this area and the older commercial streets, led by High Street which retained its traditional position as the premier commercial street of the town. The dominance of High Street may mostly be explained by its important, traditional function as the commercial core of the town

but may also partly be due to its nearness to the parish church of St. Giles which dominated the town in the nineteenth-century, both religiously and architecturally. Over the period 1841-1871, the higher status commercial core, north of the churchyard, changed somewhat in shape and size as the emphasis of commercial life began to shift westwards towards those roads forming the routeway to the north-western suburb. Thus it was streets such as Regent Street and Queen Street which developed in the later decades, at the expense of other higher status, commercial streets such as Chester Street, the main routeway to the north of the town.

However, it must be remembered that the apparent wealth of the major commercial streets of Wrexham also hid the problems of the adjoining back-streets and courts where the conditions of lower status living were as severe as anything found in the more traditional, and enduring, lower status areas bordering the river. The development of the north-western periphery was due to the initial emergence here of King Street which acted as a catalyst for the subsequent development of the surrounding area, but it was also a function of the physical geography of the site of Wrexham. This was an area which was located well away from the river Gwenfro, where tanning and brewing concerns continued throughout the nineteenth-century to produce an environment where disease and poverty predominated. The environmental problems of these riverside locations

determined that it was here throughout the period that lower status households were concentrated.

In the west of the town, the riverside areas of Pentrefelin and Brook Street maintained their lower status throughout the whole period of this analysis with the worst conditions being found in small court areas such as the Isle of Man. The presence of brewing and tanning operations which used the river for the disposal of waste products made the environment along the whole river very unhealthy and it therefore acted as a deterrent to wealthier residents who had more choice in terms of residential location.

At the beginning of the period, 1841, the area to the south-east of the churchyard and sloping down to the river, was essentially of mixed working-class status although in later years specific locations were to deteriorate into problem areas. It was here that Yorkshire Square (the former Old Yorkshire Hall) was located and it soon became one of the most notorious slum areas. The notoriety of the Square was enhanced by the presence here of the main concentration of Irish-born immigrants, and the area was well known amongst Wrexhamites as the Irish quarter, where lodging too was an important characteristic. Overcrowding was also problematic in this area, due to the presence of lodgers, particularly with the invasion of itinerant traders at the times of fairs, especially the March fair.

After 1841 there was some dispersion of the Irish population away from this area although they remained important here throughout the whole period. The main area which initially received these Irish migrants was the western riverside location - the other traditional lower status region. Others migrated to the back-streets and courts off the main commercial streets which also became overcrowded. As in most nineteenth-century towns, there was great variation in Wrexham between the fronts and backs of individual streets. Later, the concentrations of Irish-born within all streets declined as a dispersion continued throughout the town and there was some movement away from the older traditional areas into newer streets such as Belle Vue Road. Even so, Yorkshire Square was still the main concentration of Irish-born within Wrexham at the end of the period, (1871).

The only other recognisable ethnic group within Wrexham was the local concentration of Scottish-born tea dealers in Charles Street, most evident at the beginning of the period of this analysis. Their presence in Charles Street is an example of small-scale, occupation-based migration but by 1851 dispersion away from this street was already underway, and the concentration was breaking down. This might in part be due to the location of Charles Street, in the east of the town and adjoining the Beast Market, but Charles Street must also have suffered to some extent from the changing emphasis of status amongst the

commercial streets, away from the old commercial core towards the north-western sector and the developing higher status area. Thus, by 1871, Charles Street and other nearby commercial streets such as Chester Street, had diminished in status compared with those streets further to the west.

Throughout the period of this analysis, the Beast Market maintained a lower status than the adjoining commercial streets due to the nature of its function as an animal market. It formed the only other large problem area within the town, and conditions in the several courts in particular were unhealthy, but overall, conditions were not as severe as those found in the riverside locations.

Aside from these main regions already delimited, which represent the extremes of social status within Wrexham, the rest of the town was composed of a mix of working-class streets of medium status, girdling the commercial core. Often, within these streets, smaller court areas were dominated by residents of lower status suggesting that in such a small town, spatial segregation, if it did exist, was present at a very localised level. Such working-class streets include Pentrefelin bordering the river, and later in the period, some of the commercial streets near the town centre. Effectively there was little distinct segregation between the working-class population and those of lower status within Wrexham, so that within this ring of working-class streets, lower status

populations formed distinct concentrations particularly to the south-east of the churchyard and along the river Gwenfro, but in spatial terms, segregation between the two was blurred and ineffectual. In real terms, it was only the elite, high status population who could remove themselves spatially from the rest of the town's population to form distinct and separate regions in the north-west and on the southern fringe.

Thus, even in 1871, Wrexham was a town which showed a mixed sociospatial structure with only the social elite and, to a lesser extent, the very poor being residentially segregated to any real degree. Thus, this study supports the notions of Ward, who suggested that it was only these groups who experienced true residential differentiation or segregation until the end of the nineteenth-century, with most towns being residentially mixed.⁽⁶⁾ Larger cities were more likely than smaller towns to show modern levels of residential segregation earlier in the century but certainly in Wrexham such segregation had not occurred by 1871.

One area which did retain a separate identity throughout the period was Wrexham Fechan, which was originally a distinct community separated from the rest of the town by the river Gwenfro. This area never became fully assimilated into the town over this period and indeed Wrexham Fechan retained its mixed character of both residential and commercial concerns, and its independence.

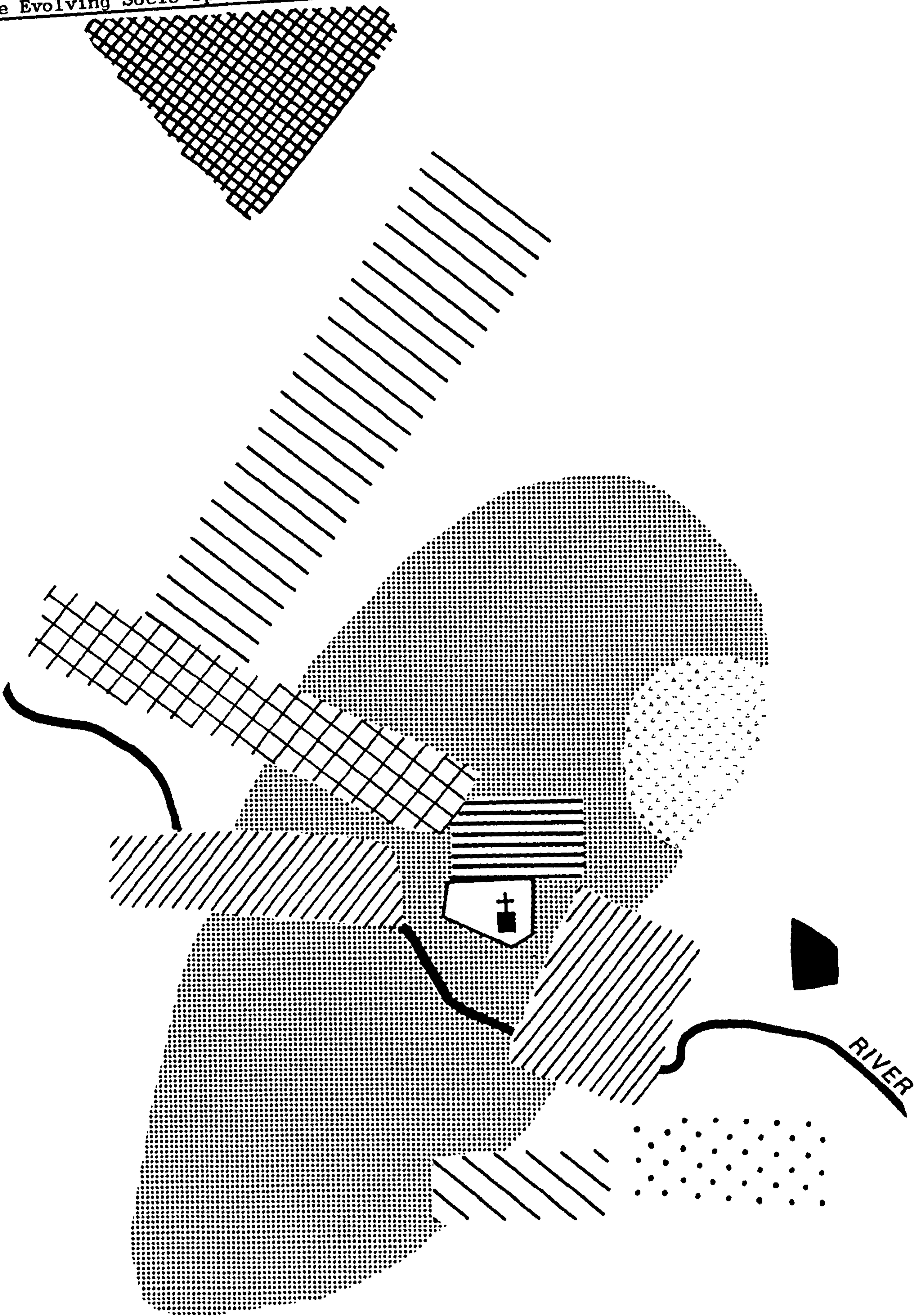
Several anomalies were also readily apparent throughout this examination. For the sake of completeness, the total population (or the total surviving censal records) were included for each year of the analysis, and this inevitably meant that specialised areas, with little in common with the rest of the town, were picked out by the data. Thus both Groves School and Tenters School, with their specialised school functions, fell into this category, as did the Caia farm on the eastern edge of the town. Such areas might well have been omitted from this examination at the onset, but they were included to retain the total amount of internal variation within the town of Wrexham throughout the period.

Figure 9.1 attempts to show diagrammatically the main features of the sociospatial structure in 1871, features which have already been outlined in this chapter. This generalised model clearly shows the emergence of the elite, high status areas particularly in the north-west of the town but also subsequently on the southern fringe. The main higher status region in the north-west is linked to the traditional and enduring high status commercial area (High Street) at the town centre, by the still developing commercial routeway formed by Regent Street and Queen Street.

Lower status households are particularly concentrated in two distinct areas along the river Gwenfro, although much of the town forms an extensive area of mixed working-class or medium status which

Figure 9.1

The Evolving Socio-spatial Structure of Wrexham in 1871.



For Key, see next page.

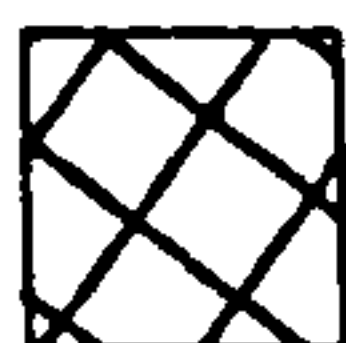
Figure 9.1 : Key



Elite, high status areas, still under development.



Enduring high status, commercial area at the town centre, adjacent to the churchyard.



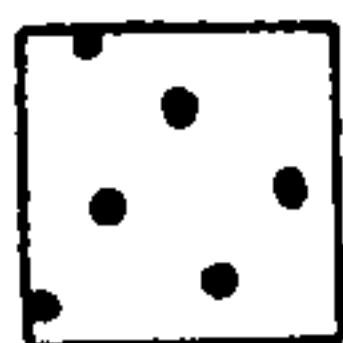
Rapidly improving (in terms of status) commercial routeway linking the elite peripheral area with the high status commercial centre.



Low status areas bordering the river Gwenfro. Poor environmental conditions, where lodging and the presence of Irish populations was a particular feature.



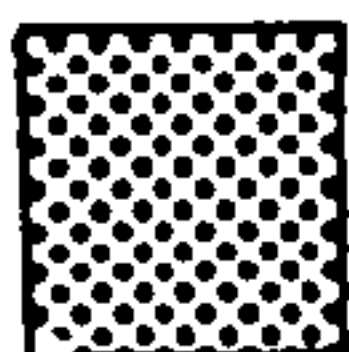
Newer, peripheral development based around a former village nucleus. Less elite in status terms than other peripheral developments.



Old, established community still retaining some independence. Mixed social and residential structure.

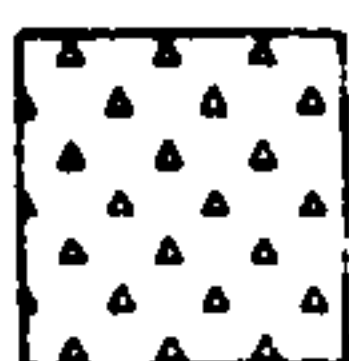


Outlying farms and estates with distinct social structures.



Area of mixed working-class / medium status with localised pockets of lower status, declining commercial streets and a larger region of lower status focused on the Beast

Market



includes small localised pockets of lower status inhabitants particularly in the back-streets and courts. The major ethnic group in the town, the Irish concentrate particularly in the lower status area to the south-east of the churchyard, with the main focus of any subsequent dispersion being the other lower status riverside area in the west. Within the large region of mixed working-class status there are still undeveloped urban areas and also a larger area of lower status in the east, focused on the Beast Market, as well as former higher status commercial streets now being overtaken in terms of prestige by peripheral developments.

Still separate from the main built-up area is the newly developing region of Rhosddu in the north, which has a slightly lower status than the neighbouring elite region, while to the south-east, the established community of Wrexham Fechan still retains some measure of independence from the rest of the town. Also located around the periphery are several outlying farms and estates, such as the Caia farm in the east, which although linked to Wrexham in many ways, also are somewhat anomalous in terms of the town's overall sociospatial structure.

Clearly from the above, levels of residential differentiation and segregation within Wrexham over the whole period (1841-1871) were relatively low, with only the polar extremes of society - the very rich (in the north-west) and the very poor (in the south and

south-east along the river) segregated to any real extent. Most of the town's population lived in socially mixed streets with limited segregation occurring at a very localised scale, such as the court. Modern levels of differentiation had not developed by 1871 and were very unlikely to develop in such a small town as Wrexham. Thus, in terms of the transitional nature of nineteenth-century towns, even in 1871 Wrexham was still at a relatively early stage in this evolutionary process with only embryonic signs of the suburbanisation which was to follow in the succeeding decades. The lateness of such processes was also noted by Lewis working on Newport,⁽⁷⁾ among others, and this seems to have been a persistent feature of Welsh urban development.

9.3 Analytical Problems

This analysis of nineteenth-century Wrexham fits very firmly into the tradition of studies undertaken during the late 1960s and 1970s, concentrating on spatial structures. It confirms that many of the processes which shaped the internal structures of Britain's larger towns were at work in the smaller market places, albeit at perhaps a slower pace and producing less striking spatial patterns. To that extent, this study is a direct continuation of the research thrust of the 1970s. However, most historical geographers working in the nineteenth-century have now

moved away from analyses based on detailed multi-variate examinations of towns and cities, towards more process orientated studies. Thus, if this author was just about to begin this analysis of Wrexham, it is unlikely that it would emerge in the same form, although there would still be the need to present the underlying social geography of the town.

Principal Components analysis and Cluster analysis, the basic tools of this and many other studies, have both become somewhat devalued as techniques in recent years, because of the subjective nature of the techniques themselves. In essence all factorial methods are highly subjective since the user decides not only the choice of technique but also which variables are to be included and when the analysis will end, and therefore to some extent the results themselves. At the same time, factors with relatively low loadings and explaining relatively low percentages of variance can be given an importance which they do not really deserve. Thus, the results from such analyses can depend very heavily on the data used, and it has been suggested that such circular arguments add very little to our understanding of nineteenth-century towns but just confirm the researchers own expectations. However, Factor analysis and Cluster analysis can be useful techniques when there is a need to simplify a very large data set to reveal the underlying sociospatial structure of a town, as long as the inherent problems associated with these techniques

are recognised. Thus, many researchers have abandoned such techniques or use the results only as background material for more specific historical urban studies.

As well as these general reservations about the techniques employed in this examination of Wrexham, there are other more specific criticisms which can be levelled against this study. This analysis was based on the total population of Wrexham at four dates in the nineteenth-century, namely 1841, 1851, 1861 and 1871, involving a total of some 27,166 individuals. Data from the census enumerators' books were coded on an individual basis and filed in the computer. This method was adopted to enable the researcher to aggregate the data into any grouping which was needed in the analysis but it also speeded up the initial data collection from the census which was on microfilm.

However, this method subsequently caused problems later in the analysis, since the computer package used (S.P.S.S.) could not deal easily with the large number of individual cases. Thus, certain procedures had to be duplicated to obtain the derived information on all individuals in any one census year, for inclusion in the street-level Principal Components analyses and Cluster analyses. Such duplication was extremely time consuming and meant that the researcher was unable to achieve all the original aims of the study. Thus, for example, no analysis of the 1871 data set (a total of 8,909 individuals) at the household-level could be undertaken, and the household analysis was confined to

the smaller 1851 data set (6,714 individuals).

Perhaps, with hindsight, if more time had been spent initially coding the census data into household units, the duplication of computational procedures would have been reduced and the savings in time may have possibly allowed more work in other aspects of the overall study.

Other problems arose because of the limitations of computer hardware and software during the main period of this research. This study began almost ten years ago, and over the intervening period there have been many advances in computer science, and computer systems and packages have undergone much development. Thus today the available computers would be much more able to cope with the large amount of data involved, but during this analysis, computational problems took time and effort to resolve.

9.4 Current Research

Since this study was undertaken there have been several calls by researchers for changes in the emphasis of nineteenth-century urban research. Several authors including Pooley (1984), Harris (1984) and Dennis (1984) have stressed the value of a movement away from quantitative studies of spatial pattern towards more process orientated work mirroring the work undertaken by social historians. Other researchers have moved on to look at different aspects of Victorian

life with the hope of clarifying and illuminating earlier work on segregation or have extended their period of interest to include the later Edwardian and inter-war periods.

Pooley,⁽⁸⁾ in a reassessment of residential differentiation studies undertaken by historical geographers, stresses the work of economic and social historians who concentrate on the significance which segregation had for the contemporary society. Pooley suggests that it is in this context that residential differentiation should be examined and its effects on society and urban life should be explored. In most geographical studies, segregation (in its widest sense) is assumed to have affected society but usually such effects are not examined specifically - most obviously because the data available for studying such ideas are not as readily apparent as the ubiquitous census enumerators' books. However, such local sources as diaries, newspapers, contemporary writings etc., do exist and can be examined in addition to the census, and other standard references such as rate books and trade directories.

Similar arguments are put forward by Harris⁽⁹⁾ who concentrates on the effects that segregation in the Victorian city would have on the development of class consciousness. Both the concepts of segregation and class have, until now, in most cases been examined independently with little recourse to a study of their interrelationship. Harris argues that it is such

interrelationships which need to be studied although he does admit that the data sources for such studies may prove difficult to handle. Both Pooley and Harris suggest that although research dealing with such issues may be much more taxing, the rewards which may result will equally be more substantial.

Because such research would be dependent on the availability of local sources, such studies would inevitably need to concentrate on the uniqueness of individual towns and cities. Many geographers working in the nineteenth-century, have looked at specific towns in terms of their relative "modernity" when compared with other towns of the period. Social historians, on the other hand, have been much more inclined to stress the individual development of a specific town and geographers also need to take much more note of the local economic and social conditions pertaining at any time and in the context of which any socio-urban changes will take place. Langton⁽¹⁰⁾ has urged that regionalism was still important in the nineteenth-century, and was not totally negated by the Industrial Revolution. Thus when examining nineteenth-century cities, the regional context must be understood, in terms of the economy, society and politics of the area, to fully reveal the underlying sociospatial changes which were taking place within the urban centres.

Dennis⁽¹¹⁾ too has stressed the need for historical urban geographers to move away from

quantitative, aggregate research towards more process orientated studies. Not only does Dennis note the influence of social historians but also the emergence of humanistic geography and the growth of a Marxist analytical approach which is forcing nineteenth-century researchers to look beyond the recognition of sociospatial patterns within the city. What is still problematic, according to Dennis, is the empirical investigation of the links between economy and society, and the way these links and relationships affected the sociospatial structure. Not only did such relationships change spatially but they also developed over time so that investigations can be beset by many problems.

Like Pooley, Dennis suggests that the perception of segregation and residential differentiation by contemporary Victorian urban dwellers is an important factor, particularly amongst the large, socially fluid, working-class sector of the population. But Dennis also stresses the need for a clarification of the terms "segregation" and "community", which he sees not as direct opposites per se, but as opposite sides of the same coin. Amongst historical geographers however, segregation has received much more attention than community, community being a much more imprecise entity.

Linked to these questions of segregation and community must also be the notion of mobility. During the nineteenth-century, society, or certain sections of

it, was relatively mobile, although most moves were inevitably short-distance and could therefore be within the same residential district. However, it is important that studies of segregation be linked to those of community and mobility to gain a full picture of the social life of the Victorian city.⁽¹²⁾

An alternative model of spatial change to that proposed by Sjoberg, Burgess etc., has also been developed by Marxist geographers in the United States,⁽¹³⁾ who view residential differentiation in terms of the relationship between wealth accumulation, investment in building and the division of labour under the capitalist system. Again the sources prove more problematic if such notions are to be explored, but again the rewards are potentially greater, in terms of a more realistic understanding of nineteenth-century society as the context in which to view residential differentiation.

Dennis has suggested that geographers should undertake studies using much more "active definitions" of class and status, again by using ancillary local sources which give information on religious affiliations, voting behaviour and other aspects of urban social life. Alternatively, other researchers have concentrated on the role of managers within the housing market who determine the action which individuals can take and thereby effect the resulting spatial patterns. Undoubtedly people's access to housing tenures varied during the nineteenth-century,

particularly in the later decades of the century, but information on the management of dwellings and therefore our understanding of the role of such managers, for example private landlords, is only fragmentary. Some attempts have been made to look at these problems, including that by Pooley and Irish, who have studied the development of council housing in Liverpool from 1869, but most information and therefore most of their interest relates to the inter-war period rather than the nineteenth-century.⁽¹⁴⁾

The working of the housing market is one obvious factor which could have an important effect on residential differentiation within any city. Council house building and the development of building societies and owner-occupation, particularly during the inter-war period would have obvious effects on urban society and it is important that we understand how such developments affected the evolving society and city. Pooley and Irish have attempted to do this for Liverpool by looking at the interrelationships between the housing sub-markets, during a period of particularly severe economic recession, and they discovered that there were wide variations in the quality of housing experienced by different households within the city.

Other researchers have continued to study the spatial patterns found in the nineteenth-century town, but have moved away from the census as a data source. Thus Lewis⁽¹⁵⁾ in a study of Newport (Gwent)

concentrates on rate books and directories to determine the locations of high status groups within the town and to examine the changes which have occurred in these locations over a thirty year period (1850-1880). Lewis suggests that residential change did not occur in all towns at the same pace in the nineteenth-century, with Welsh towns in particular being somewhat laggard in terms of the adoption of new urban trends.

The other focus of nineteenth-century research in recent years has been the geography of disease. Victorian towns were essentially very unhealthy places, but there were also wide intra-urban variations in the extent of disease and mortality. Pooley and Pooley,⁽¹⁶⁾ amongst others, have looked at selected aspects of the relationships between disease, mortality, society and the urban environment in Manchester during the mid-Victorian period, using a variety of sources including the census and the Medical Officer of Health reports. It is clear that more research into disease within specific nineteenth-century cities, particularly if undertaken in the context of society in its widest sense, including its economic, social, political, cultural etc., aspects, is needed, and this whole field of interest could prove to be an important focus of research for future historical geographers.

This section has attempted to suggest areas of future research interest within nineteenth-century cities for urban historical geographers. Obviously

there has been some movement away from quantitative aggregate studies of spatial patterns (into which tradition this examination of Wrexham fits) over the last few years towards studies concerned more with contemporary society and its development, and the effects this has on the evolving spatial structure of the city, and vice versa. However, there is still the need for the identification of sociospatial patterns within this new urban historical geography, not least as a context within which these newer investigations may be located, so that the relationships between society and space may more clearly be understood within the Victorian era.

9.5 Notes

1. This examination of Wrexham was effectively undertaken between October 1978 and September 1981 - the period when the author was receiving support from the Social Science Research Council.
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7. Lewis, C.R. (1985) op.cit.
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12. See particularly: Dennis, R.J. (1984) op.cit.;
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13. For an introduction to this work see: Dennis, R.J.
(1984) op.cit.; Chapter 1, p.8.
14. Pooley, C.G. and Irish, S. (1984b) The Development
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Paper, University of Lancaster. See also: Pooley,
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Appendix A.

Variables derived from the census and entered on coding sheets for input into the computer. Data were entered on an individual basis. Each entry was separated from the next entry by one empty column.

Column.

1 - 4	Household number (in sequence).
6 - 7	Enumeration District code.
9 - 11	Street code.
13 - 14	Relation to Household Head.
16	Marital Status.
18	Sex.
20 - 22	Age.
24 - 26	Occupation.
28	Number of employees (if an employer and if given).
30 - 32	Birthplace code.

A total of thirty-two columns were used on each computer card.

Appendix B.

Coding schemes used on selected variables from the censuses 1841-1871.

Relation to Household Head

00	Unknown (1841)	41	Permanent lodger's wife
01	Head	42	Permanent lodger's daughter
02	Wife	43	Permanent lodger's son
03	Son	44	Visitor's daughter
04	Daughter	45	Half brother
05	Stepson	46	Visitor's Wife
06	Stepdaughter	47	Visitor's son
07	Brother	48	Assistant
08	Sister	49	Lodger's wife
09	Father	50	Lodger's son
10	Mother	51	Lodger's daughter
11	Son-in-law	52	Journeyman
12	Daughter-in-law	53	Great niece
13	Brother-in-law	54	Governess
14	Sister-in-law	55	Visitor's daughter
15	Father-in-law	56	Stepsister
16	Mother-in-law	57	Boarder
17	Uncle	58	Nephew-in-law
18	Aunt	59	Great nephew
19	Grandson	60	Matron
20	Grandaughter	61	Matron's son
21	Grandfather	62	Patient
22	Grandmother	63	Prisoner
23	Great grandson	64	Boarder's wife
24	Great granddaughter	65	Boarder's son
25	Cousin	66	Boarder's daughter
26	Nephew	67	Grandson-in-law
27	Niece	68	Grand niece
28	Relation (not precise)	69	Joint head/partner
29	Visitor	70	Great nephew
30	Companion	71	Foreman/woman
31	Lodger	72	Lodger's daughter-in-law
32	Servant	73	Lodger's brother-in-law
33	Housekeeper	74	Lodger's grandson
34	Apprentice	75	Lodger's granddaughter
35	Pupil	76	Matron's daughter
36	Temporary lodger	77	Employee
37	Temporary lodger's son	78	Nurseling
38	Temporary lodger's wife	79	Great niece
39	Temporary lodger's daughter	80	Servants wife
40	Permanent lodger		

Marital Status

0	Child under fifteen years
1	Married
2	Batchelor
3	Spinster
4	Widower
5	Widow
9	Unknown (1841)

Sex

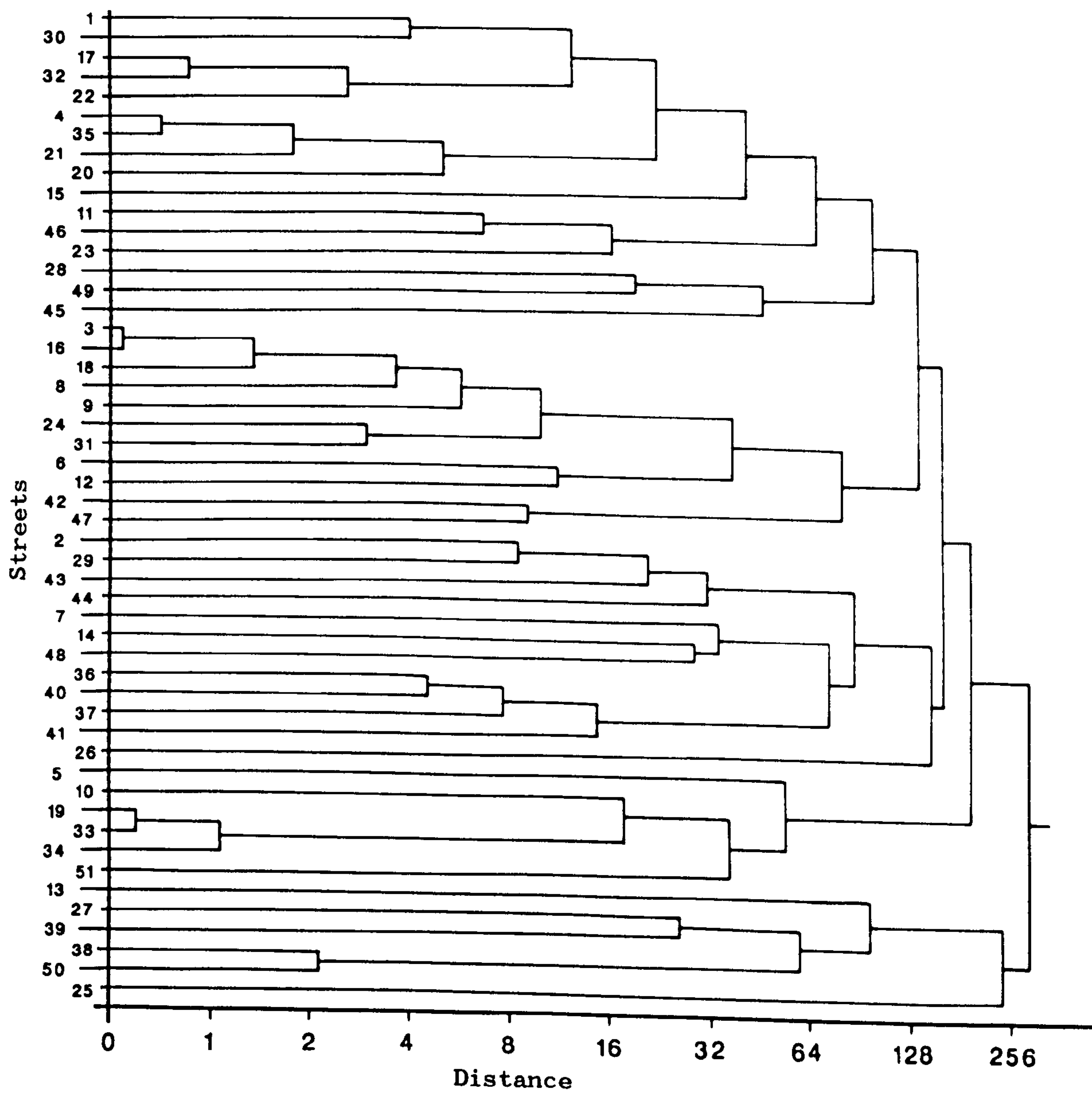
1	Male
2	Female
3	Unspecified (and cannot be deduced).

Age

000	Under one year
999	Unknown

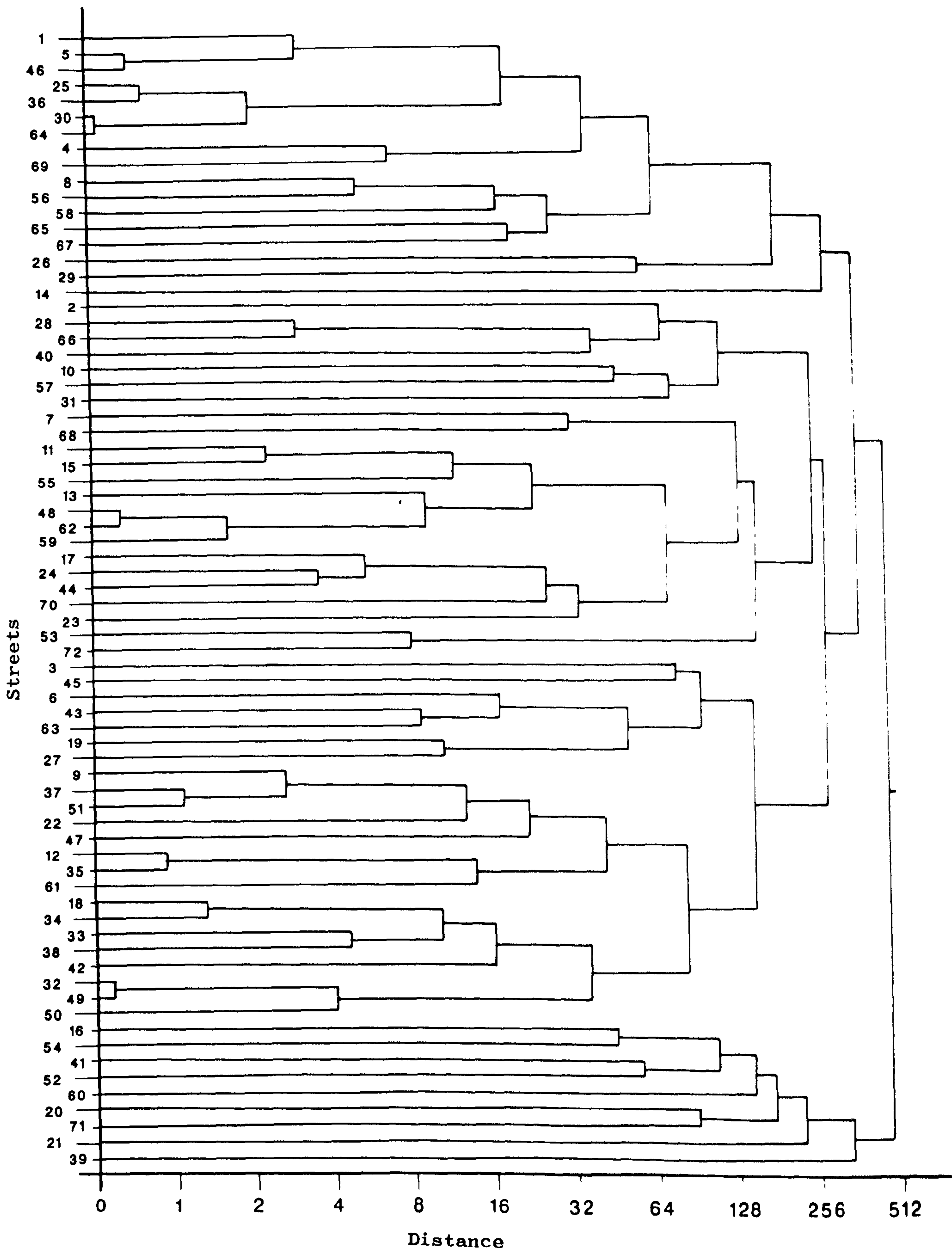
Appendix C.

(1) 1841 : Cluster Analysis : Dendrogram.



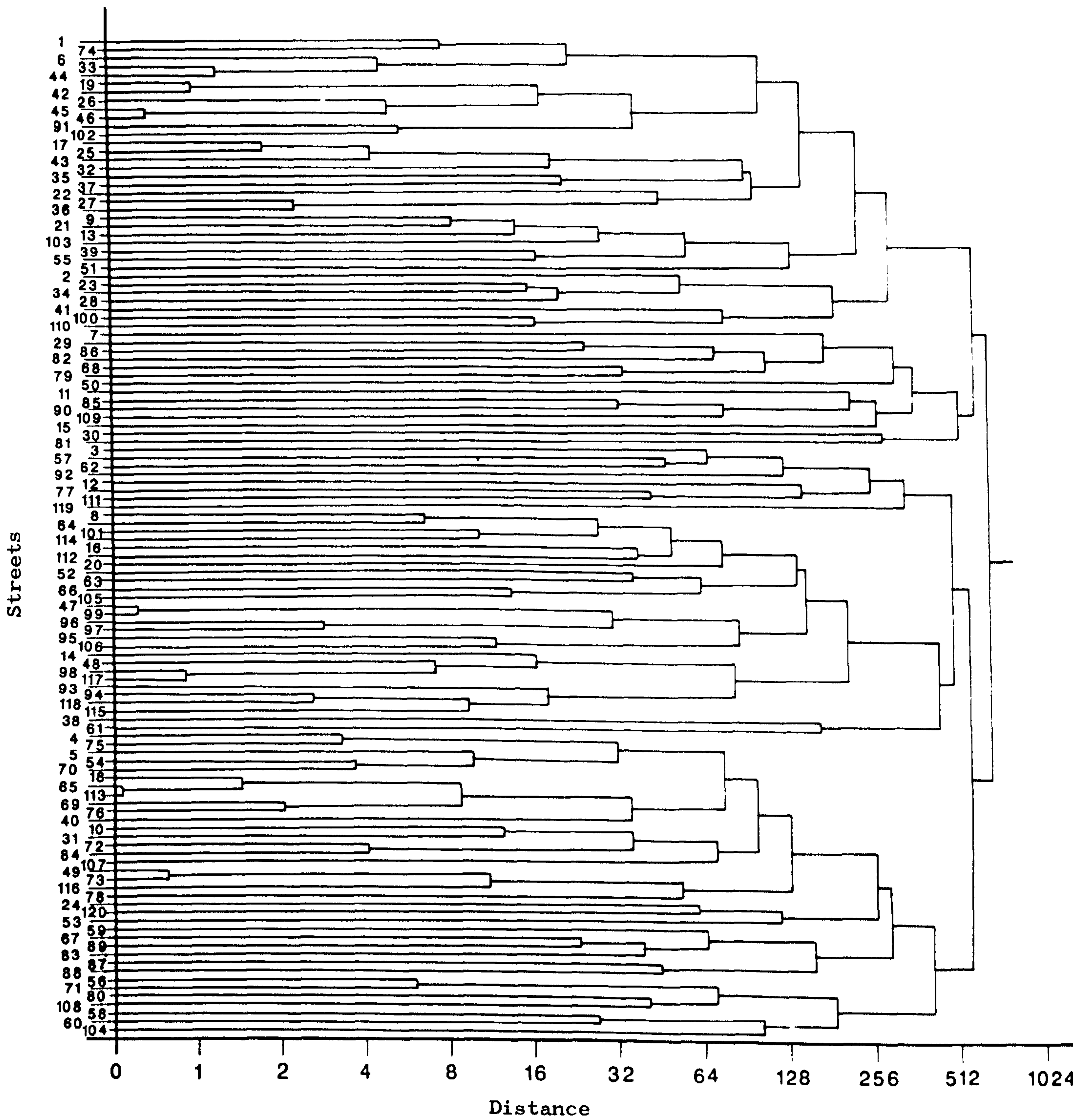
Appendix C.

(2) 1851 : Cluster Analysis : Dendrogram.

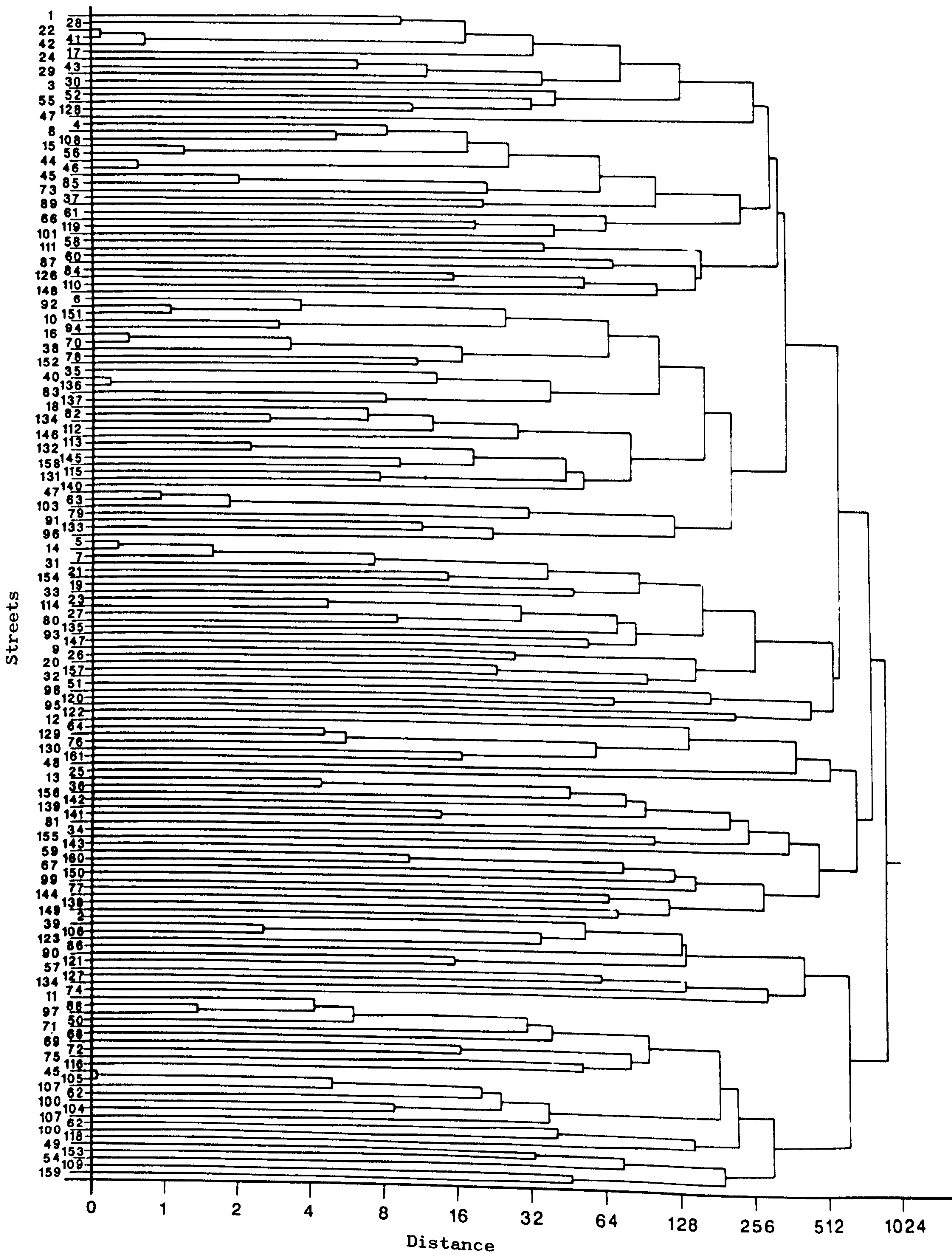


Appendix C.

(3) 1861 : Cluster Analysis : Dendrogram.



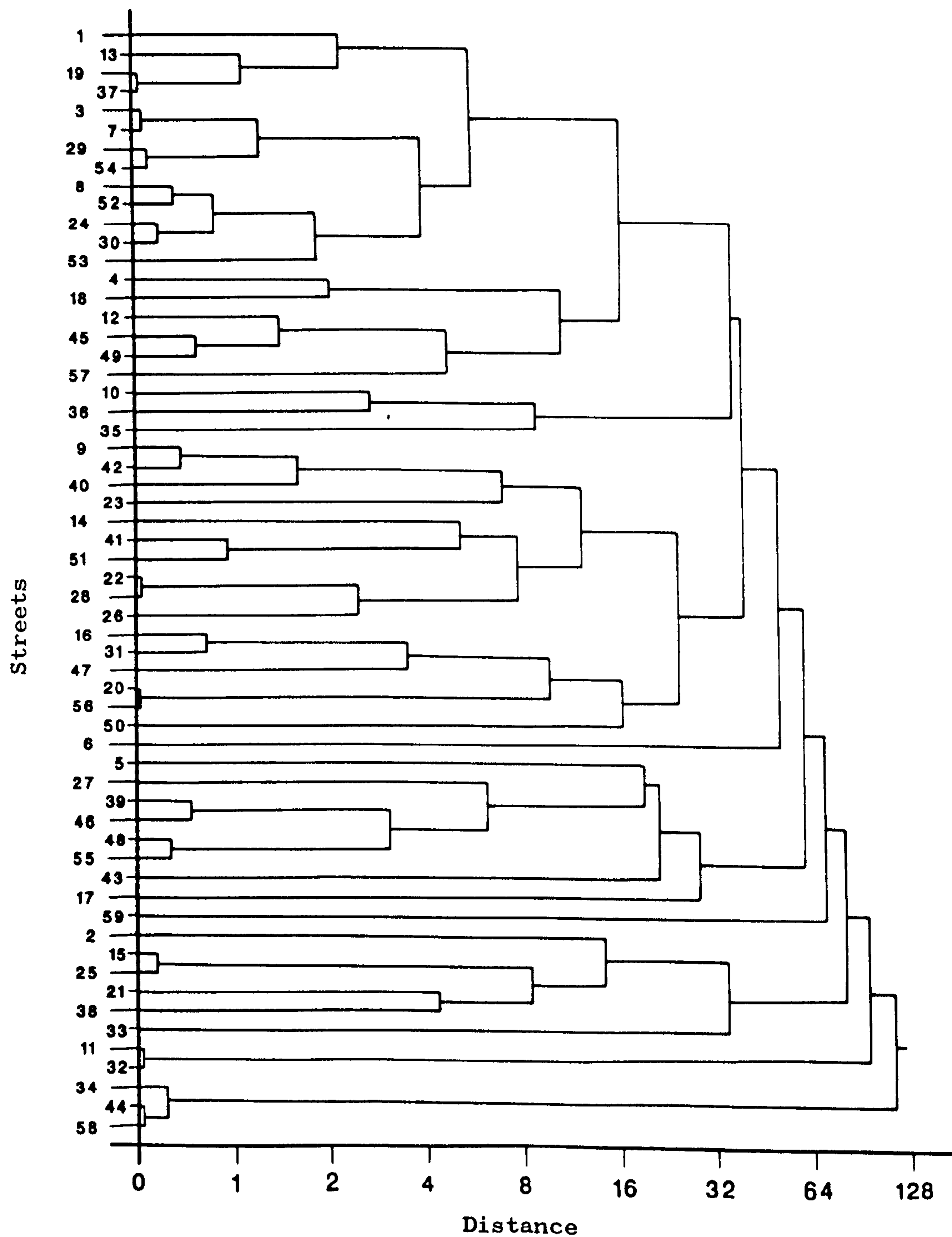
(4) 1871 : Cluster Analysis : Dendrogram.



Appendix C.

(5) 1851 Household Data : Component One.

Cluster Analysis : Dendrogram.



Appendix C.

(6) 1851 Household Data : Component Two.

Cluster Analysis : Dendrogram.

